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M E M O R A N D U M

TO: John Mitnik, Chief, Engineering and Construction Bureau
Paul Linton, Administrator, Water Control Operations Section

FROM: SFWMD Staff Environmental Advisory Team

DATE: August 11, 2015

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Stages in Lakes East Toho, Toho, and Kissimmee-Cypress-Hatchineha (KCH) continue to rise; East and Toho are near or at their regulation schedules and within their ascension rate targets (<0.5 feet in the last 14 days); KCH has slightly exceeded 0.5 feet in 14 days. With KCH stage approaching the regulation line, discharge may increase more rapidly, as needed, to follow the wet season standing recommendation (up to 300 cfs/day). On Sunday, discharge at S-65 averaged 1560 cfs and at S-65A 1375 cfs. Discharge at S-65E averaged 885 cfs over the past week. Tuesday morning discharges: S-65 ~1550 cfs; S-65A ~1360 cfs; S-65C ~1255 cfs; S-65E ~1030 cfs. Kissimmee River dissolved oxygen concentration averaged 3.54 mg/L over the past week and 4.31 mg/L on Sunday. Kissimmee River mean floodplain depth is currently 1.09 feet.

Lake Okeechobee is at 12.27 feet NGVD, essentially unchanged from last week, the summer stage ascension having stalled. The Lake remains in the Beneficial Use Sub-band and is within 0.32 feet of the top of the water shortage management band. Satellite imagery indicates low to moderate bloom conditions in most of the Lake's nearshore zone and there were reports of a fish kill, of unknown causation, in the Kings Bar area towards the end of last week.

Over past week, total freshwater inflow to both estuaries was dominated by local basin runoff, averaging 571 cfs to the St. Lucie and 2623 cfs to the Caloosahatchee. In the St. Lucie Estuary, salinity was in the good range for adult oysters. In the Caloosahatchee Estuary, salinity continued to be in the good range for adult oysters at Shell Point and Sanibel and in the fair range at Cape Coral. Salinities were also in the good range for tape grass in the upper-Caloosahatchee Estuary, and are forecasted to remain so over the next two weeks, even with no flow through S-79.

Rainfall was low to moderate last week, ranging from 0.43 inches in WCA-2B to a high of 1.37 inches in WCA-1. Water levels are far below average in the wet season. Stages decreased again to 0.54 feet below ground at northeastern WCA-3A gauge 63, and north of there are over two feet below ground. Additional inflow is needed in far northeastern WCA-3A (near the southeastern corner of STA-3/4) to protect the peat soils from fires and oxidation. Increased water is needed throughout the system, particularly in Everglades National Park (ENP) to Florida Bay through Taylor Slough. The El Niño position analysis for the WCAs indicates that water levels may remain very low through the wet season and upcoming dry season, which means ongoing problems in ENP (drought) and Florida Bay (salinity), as well.

The 30-day moving average salinity at the Florida Bay Minimum Flows and Levels sentinel site increased to 45.3 psu. Creek inflows to the Bay are 87,166-acre feet, the lowest they have been since the flow gauges in the creeks were installed in 1996.

Weather Conditions and Forecast

Below average rains today and tomorrow before Thursday transitions us into a period of above average rains. The main reasons we have seen a top five driest start to the wet season since 1932 is because the mid to upper level high has been centered between Georgia and Texas and moist, southerly flow from the Caribbean has been almost non-existent. The seabreeze has been working within a mainly neutral to unfavorable environment since May. This regime looks like it will end later this week as a strong trough develops over the southeast U.S. and Gulf of Mexico and effectively pushes the upper level high into its more typical locations (e.g. around Bermuda and the southwest U.S.). The return of more dynamic westerly upper level winds will begin to enhance showers/storms on Thursday, through the weekend, and possibly through next week.

KISSIMMEE BASIN

Kissimmee Basin Rainfall

The Upper Kissimmee Basin received 0.74 inches of rainfall in the past week and the Lower Basin received 0.22 inches (SFWMD Daily Rainfall Report 8/10/2015).

Upper Kissimmee Basin

Stages and departures in the Kissimmee Chain of Lakes (KCOL) are shown in Table1.

Table 1. Departures from KCOL flood regulation (F) or temporary schedules (T, A, or S) (feet NGVD). Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 8/11/2015							Sunday Departure (feet)						
Water Body	Structure/Site	Discharge (cfs), week's average**	Stage Monitoring Site***	Lake Stage (feet)	Schedule*	Regulation (R) or Target (S or T) Stage (feet)	8/9/15	8/2/15	7/26/15	7/19/15	7/12/15	7/5/15	6/28/15
Lakes Hart and Mary Jane	S62	214	LKMJ	59.8	R	60.0	-0.2	0.2	-0.1	0.0	0.0	-0.1	0.1
Lakes Myrtle, Preston, and Joel	S57	43	S57	60.8	R	61.0	-0.2	0.0	-0.2	-0.2	0.0	-0.1	-0.1
Alligator Chain	S60	198	ALLI	63.0	R	63.3	-0.3	-0.1	-0.2	-0.1	-0.2	-0.2	0.0
Lake Gentry	S63	275	LKGT	60.8	R	61.0	-0.2	0.0	-0.1	0.0	0.0	-0.1	0.0
East Lake Toho	S59	493	TOHOE	56.5	R	56.5	0.0	-0.1	-0.3	-0.5	-0.5	-0.9	-0.9
Lake Toho	S61	1349	TOHOW	53.4	R	53.5	-0.1	0.1	-0.3	-0.3	-0.4	-0.6	-0.7
Lakes Kissimmee, Cypress, and Hatchineha	S65	1125	LKISSP, KUB011, LKISSB	50.8	R	51.0	-0.2	-0.5	-0.7	-1.0	-1.2	-1.6	-1.8

* T = temporary schedule, R = USACE flood control schedule, S = temporary snail kite schedule, A = projected ascension line, N/A= not applicable or data not available.

** Seven-day average of weighted daily means through Sunday midnight.

*** Names of in-lake monitoring sites and structures used to determine lake stage; if more than one site is listed, an average is reported.

DATA ARE PROVISIONAL

Lower Kissimmee Basin

Discharges and stages at Lower Basin structures are shown in Table 2. SFWDAT depth maps for the Phase I restoration area are shown in Figure 11. Kissimmee River floodplain stages at selected stations are shown in Figure 12.

Table 2. Mean weekly discharge at S-65x structures, and mean weekly Phase I area river channel dissolved oxygen and floodplain mean water depth. Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 8/11/2015

Metric	Location	Sunday's 1-day average	Weekly Average**								
			8/9/15	8/2/15	7/26/15	7/19/15	7/12/15	7/5/15	6/28/15	6/21/15	6/14/15
Discharge (cfs)	S-65	1559	1125	250	145	447	513	314	352	395	423
Discharge (cfs)	S-65A	1372	1030	345	284	411	597	277	273	296	331
Discharge (cfs)	S-65C	935	905	752	682	762	958	430	435	478	533
Headwater stage (feet NGVD)		35.7	34.8	34.2	34.2	34.2	33.9	33.4	33.3	33.4	33.5
Discharge (cfs)	S-65D****	1048	1059	881	774	872	1076	480	515	588	628
Discharge (cfs)	S-65E	901	885	724	550	652	870	325	361	415	468
DO concentration (mg/L)***	Phase I river channel	4.31	3.54	4.30	4.85	4.90	5.15	7.26	8.09	7.24	5.81
Mean depth (feet)*	Phase I floodplain	1.09	N/A	0.51	0.44	0.47	0.68	0.22	0.19	0.25	0.33

* 1-day spatial average from South Florida Water Depth Assessment Tool (SFWDAT).

** Seven-day average of weighted daily means through Sunday midnight.

*** DO is the average of KRBN and PC62 through May 21,2015; is for PC62 only for May 22-June 1; and is the average for PC62 and PC33 starting June 2..

**** S-65D discharge combines discharge at S-65D, S-65DX1, and S-65DX2

***** 1-day spatial average from field measurements in Pools A and BC

N/A Not applicable or data not available.

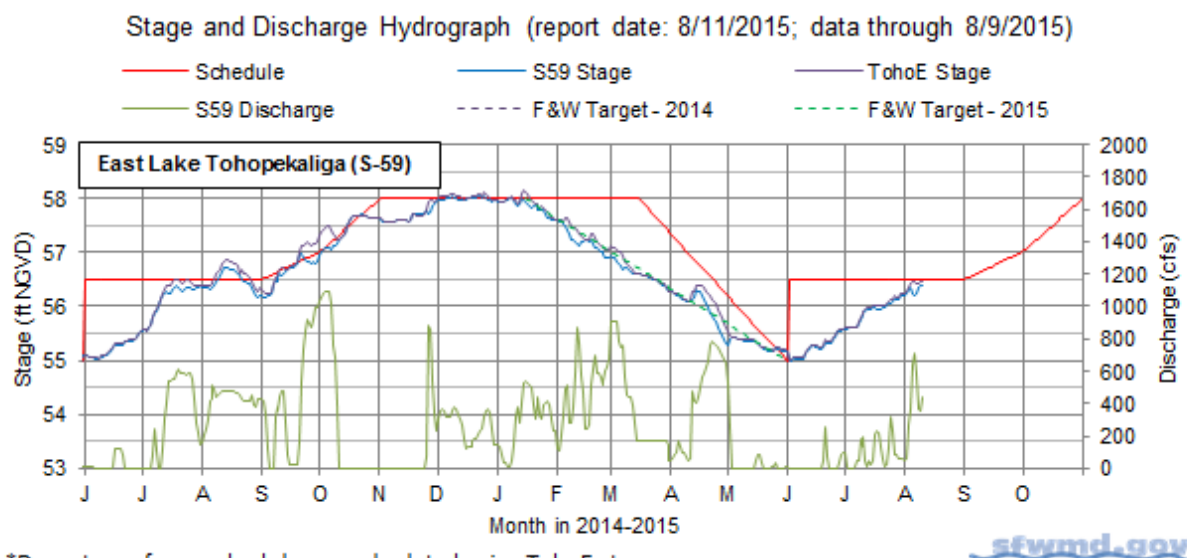
DATA ARE PROVISIONAL

Water Management Recommendations

Kissimmee Basin Recommendations and Operational Actions

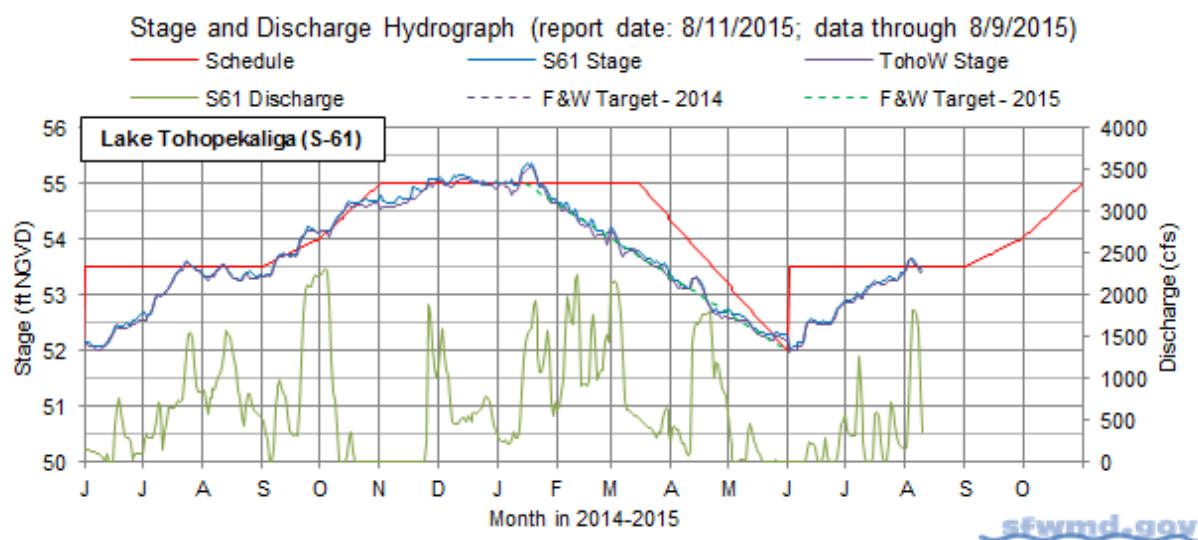
Date	Recommendation	Purpose	Outcome	Source
8/11/2015	No new recommendations.			
8/4/2015	No new recommendations.			
7/28/2015	No new recommendations.			
7/14/2015	No new recommendations.			
6/30/2015	No new recommendations.			
6/23/2015	No new recommendations.			
6/16/2015	No new recommendations.			
6/9/2015	No new recommendations.			
6/1/2015	For S65/65A maintain 300 cfs as long as stage is above 48.5 ft. When stage approaches 50.5 ft begin transitioning to 1400 cfs using the rampup/rampdown guidelines in standing recommendation.	Allow KCH lake stage to rise	Implemented	KB Operations
5/29/2015	2015 KB Wet Season Standing Recommendations provided to Operations Control	Comprehensive wet season guidance	Implemented	KB Operations
5/26/2015	No new recommendations.			
5/19/2015	No new recommendations.			
5/12/2015	No new recommendations.			
5/5/2015	No new recommendations.			
4/7/2015	No new recommendations.			
3/31/2015	No new recommendations.			
3/24/2015	No new recommendations.			
3/17/2015	No new recommendations.			
3/9/2015	No new recommendations.			
3/4/2015	No new recommendations.			
2/23/2015	No new recommendations.			
2/17/2015	No new recommendations.			
2/10/2015	No new recommendations.			
2/3/2015	No new recommendations.			
1/27/2015	Starting today, follow a new SK recession line for KCH, which will be drawn from today's stage to regulation stage on March 1.	Snail kite recession in KCH	Implemented	

KCOL Hydrographs (through Sunday midnight)



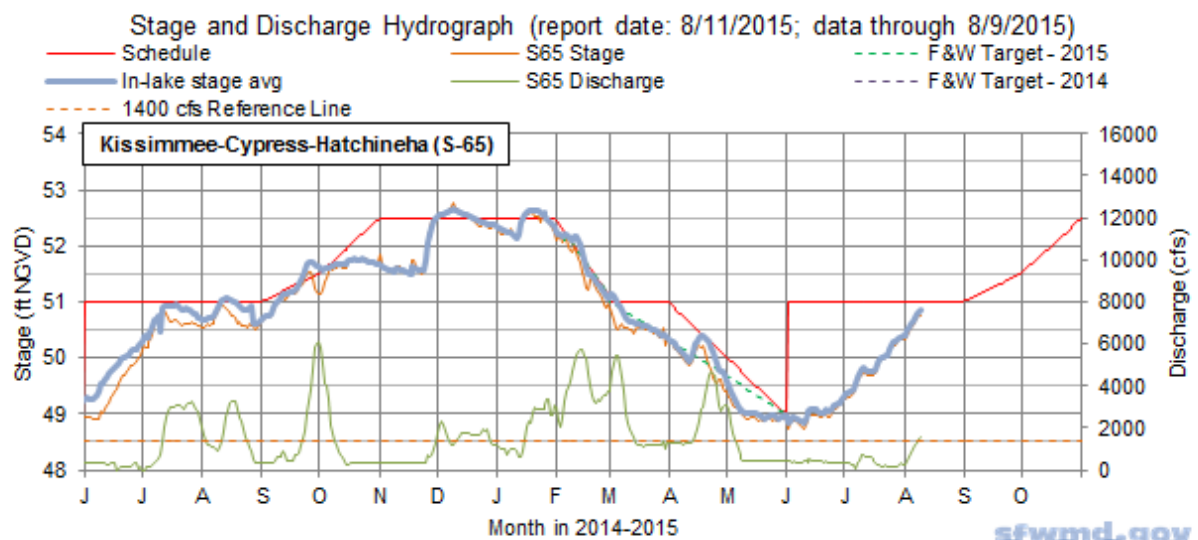
*Departures from schedule are calculated using TohoE stage.

Figure 1.



*Departures from schedule are calculated using TohoW stage.

Figure 2.



*Schedule departures use In-lake stage avg (L KISS, KUB011, and LKIS5B).

Figure 3.

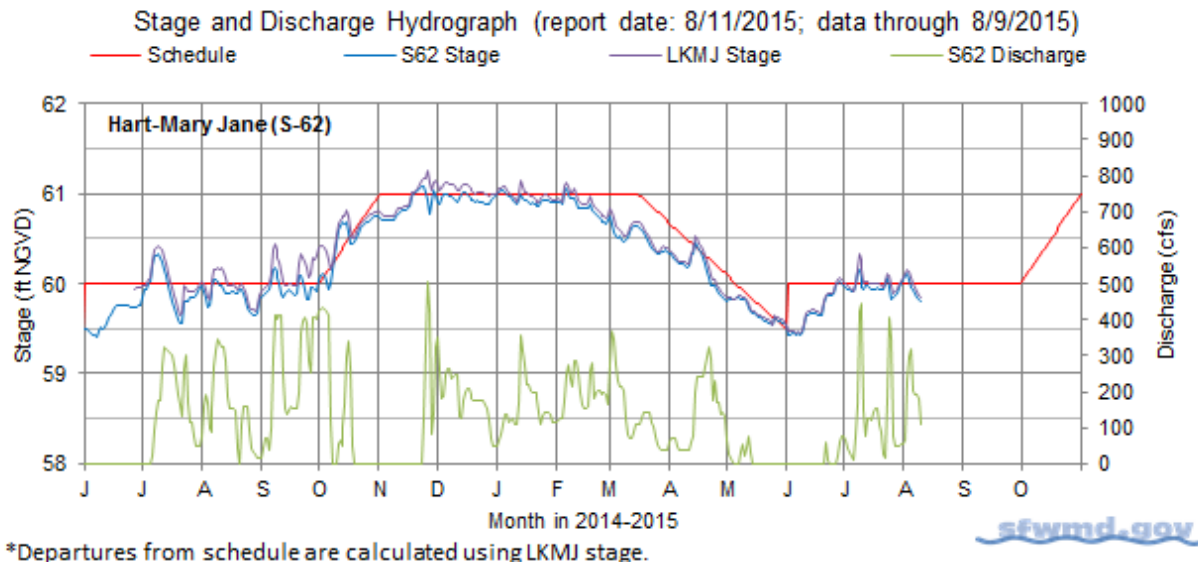


Figure 4.

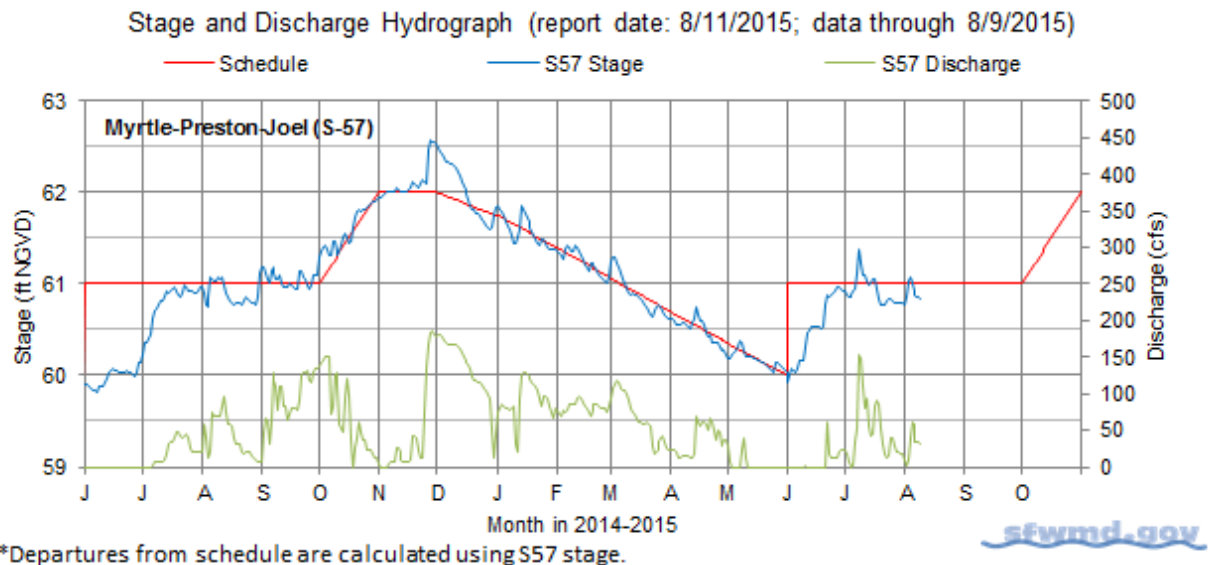


Figure 5.

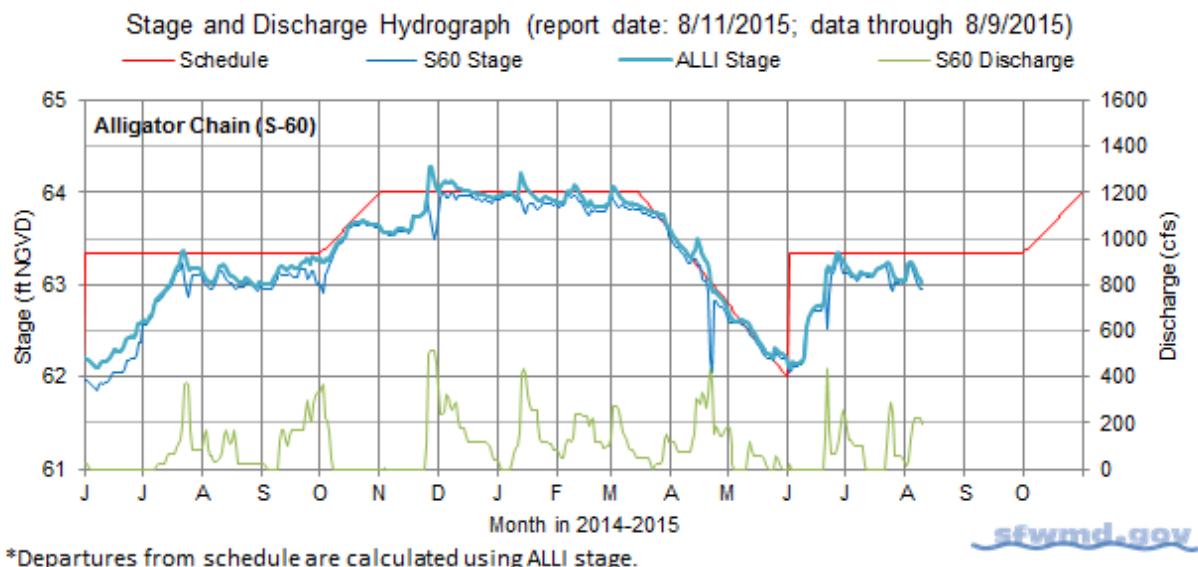


Figure 6.

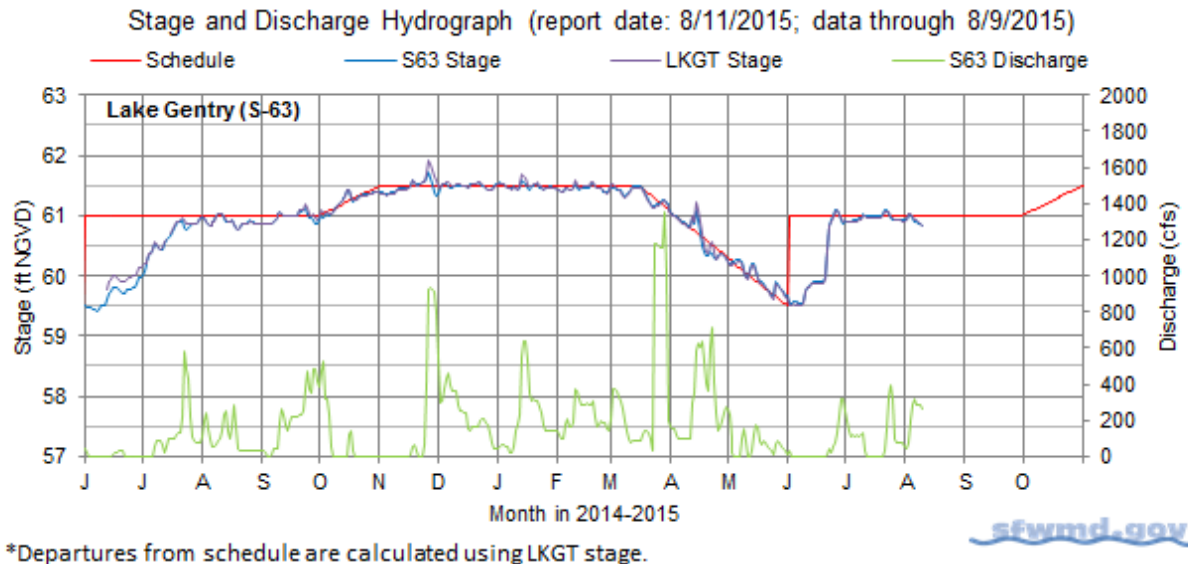


Figure 7.

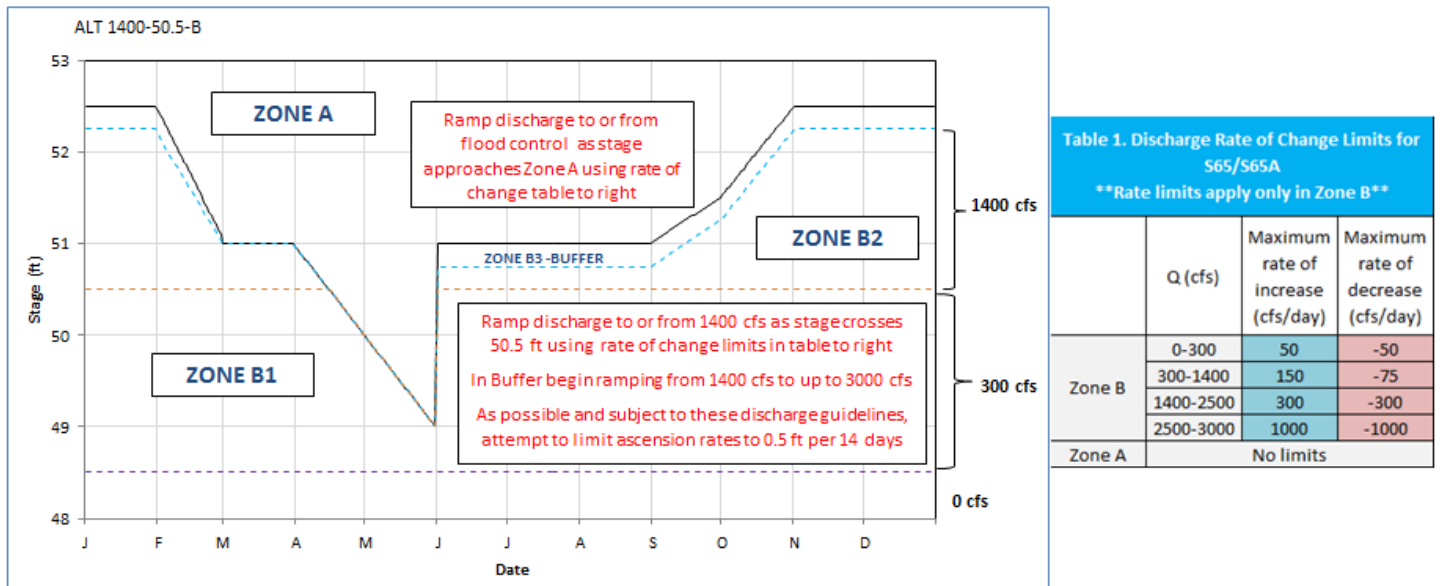


Figure 8a. Final S65 operational plan for Wet Season 2015.

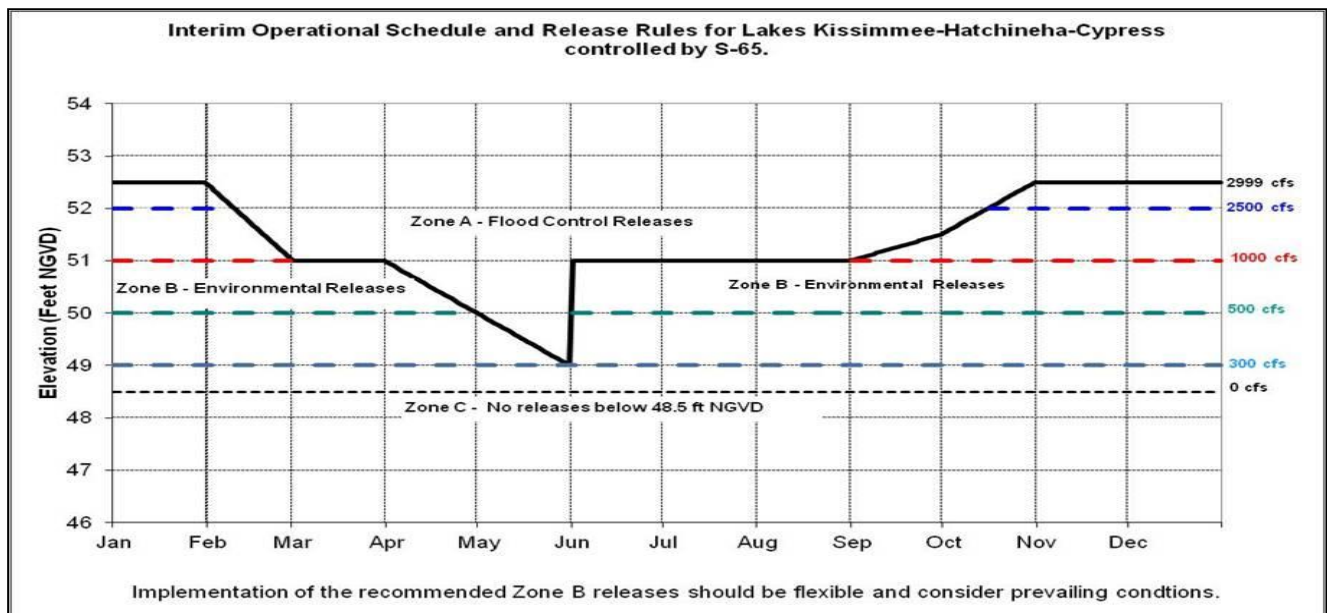


Figure 8b. Interim operations schedule for S-65. The discharge schedule shown to the right has not been used in recent years or in Wet Season 2015.

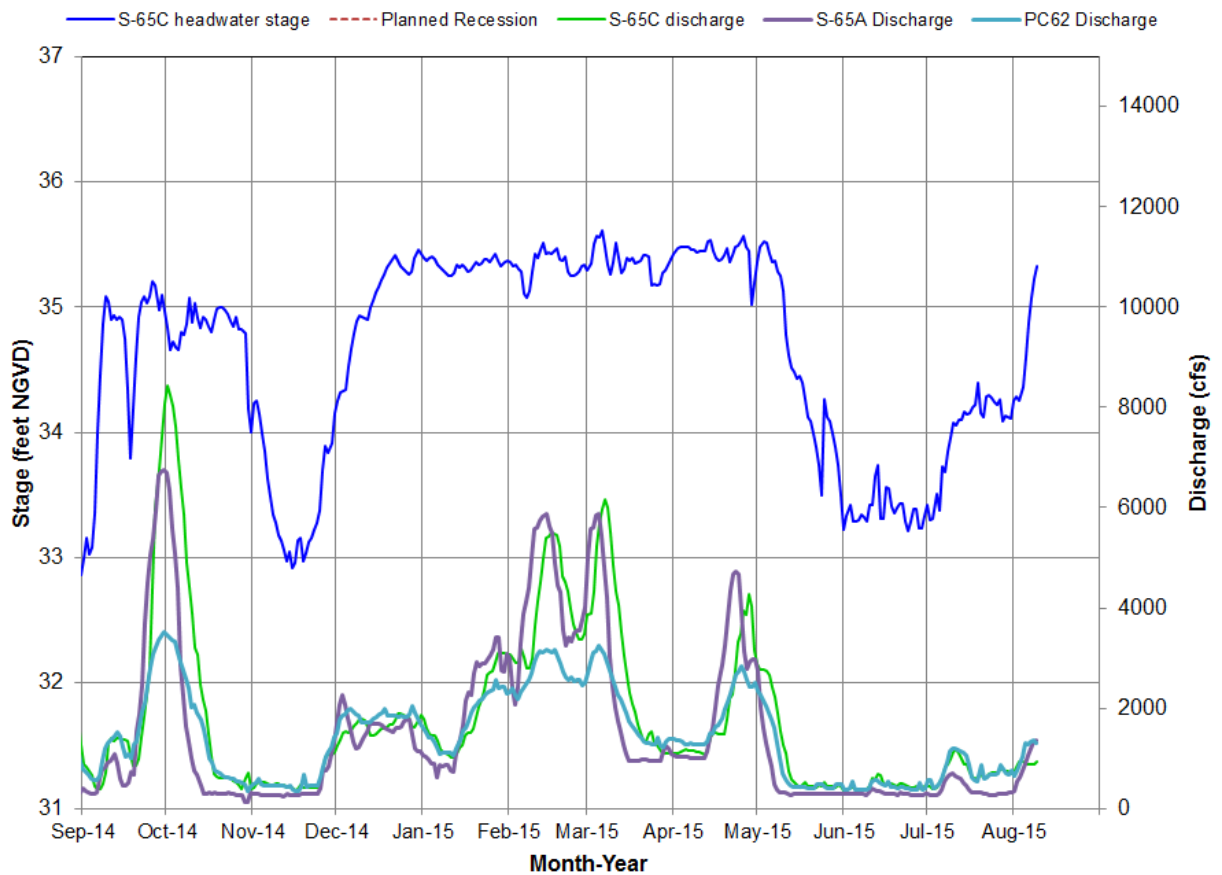


Figure 9. S-65C headwater stage in relation to discharge at S-65C, S-65A, and PC62.

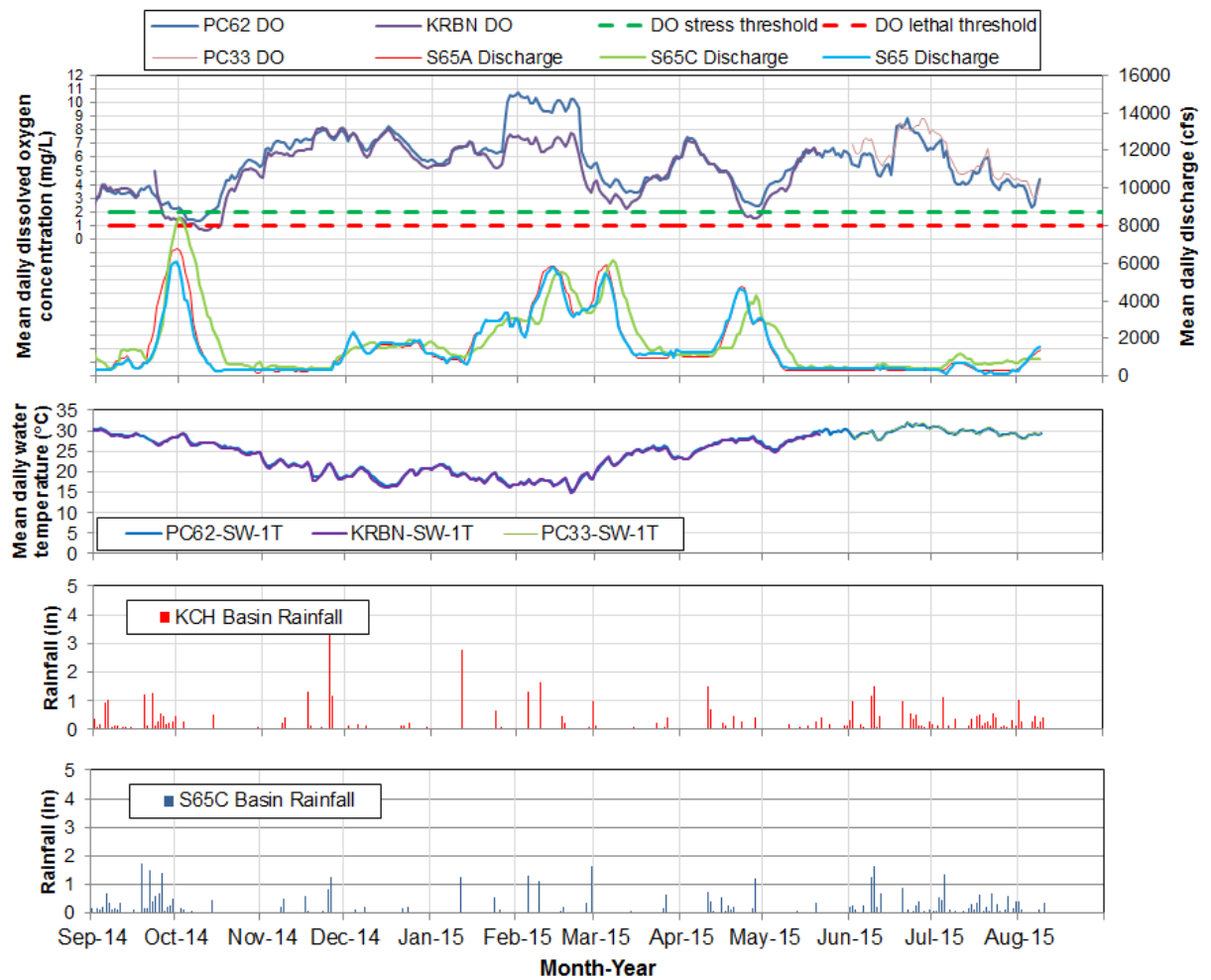
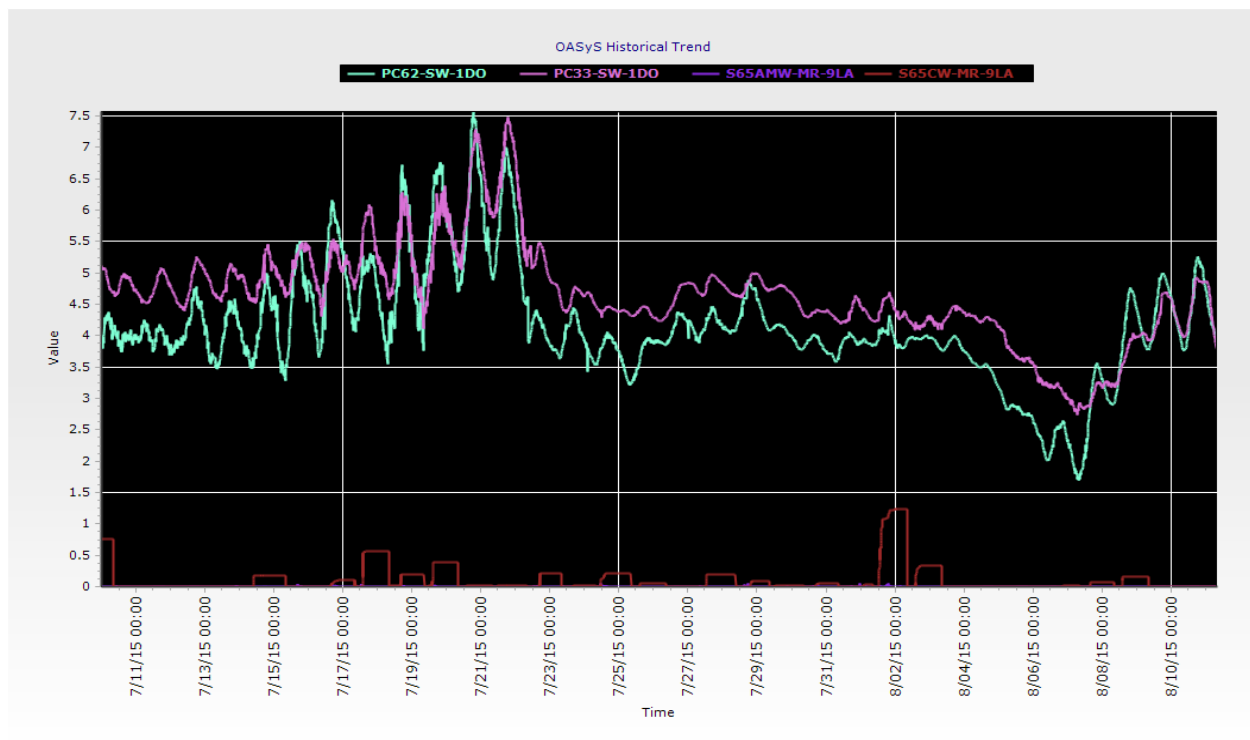


Figure 10. Mean daily DO, discharge, temperature and rainfall in the Phase I river channel.



Insert A. Phase I river channel DO (measured at 15 minute intervals) and rainfall at S65A and S65C.

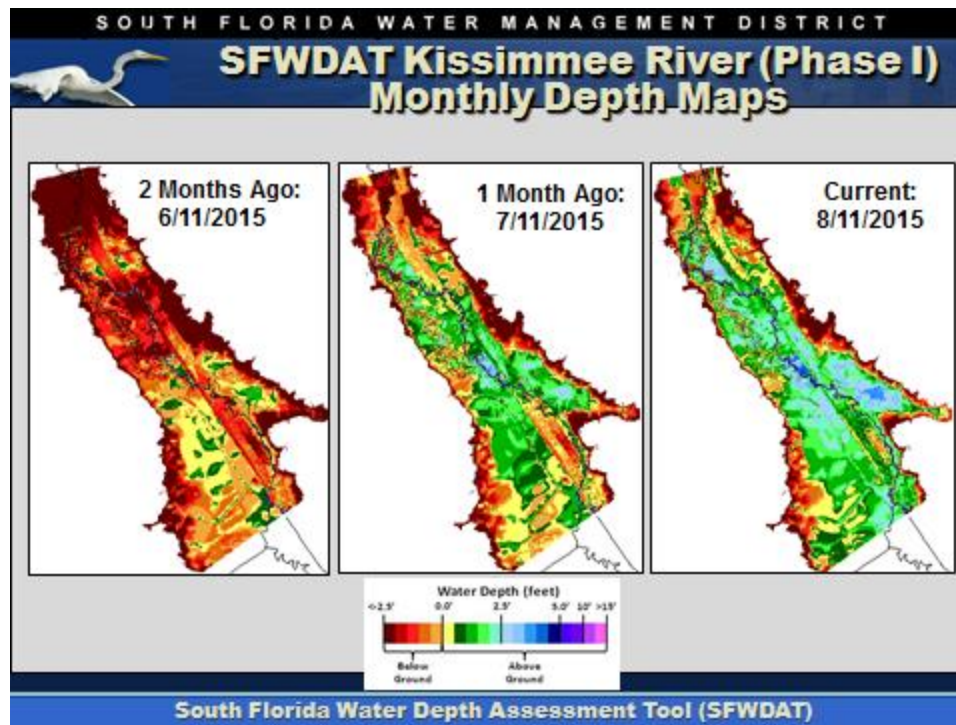


Figure 11. Phase I area floodplain water depths for this week, one month ago, and two months ago. Note that the WDAT color-coding has been modified to accommodate greater water depths; these maps are not directly comparable to Kissimmee Basin WDAT maps published prior to Jan. 16, 2012.

Kissimmee River Hydrographs

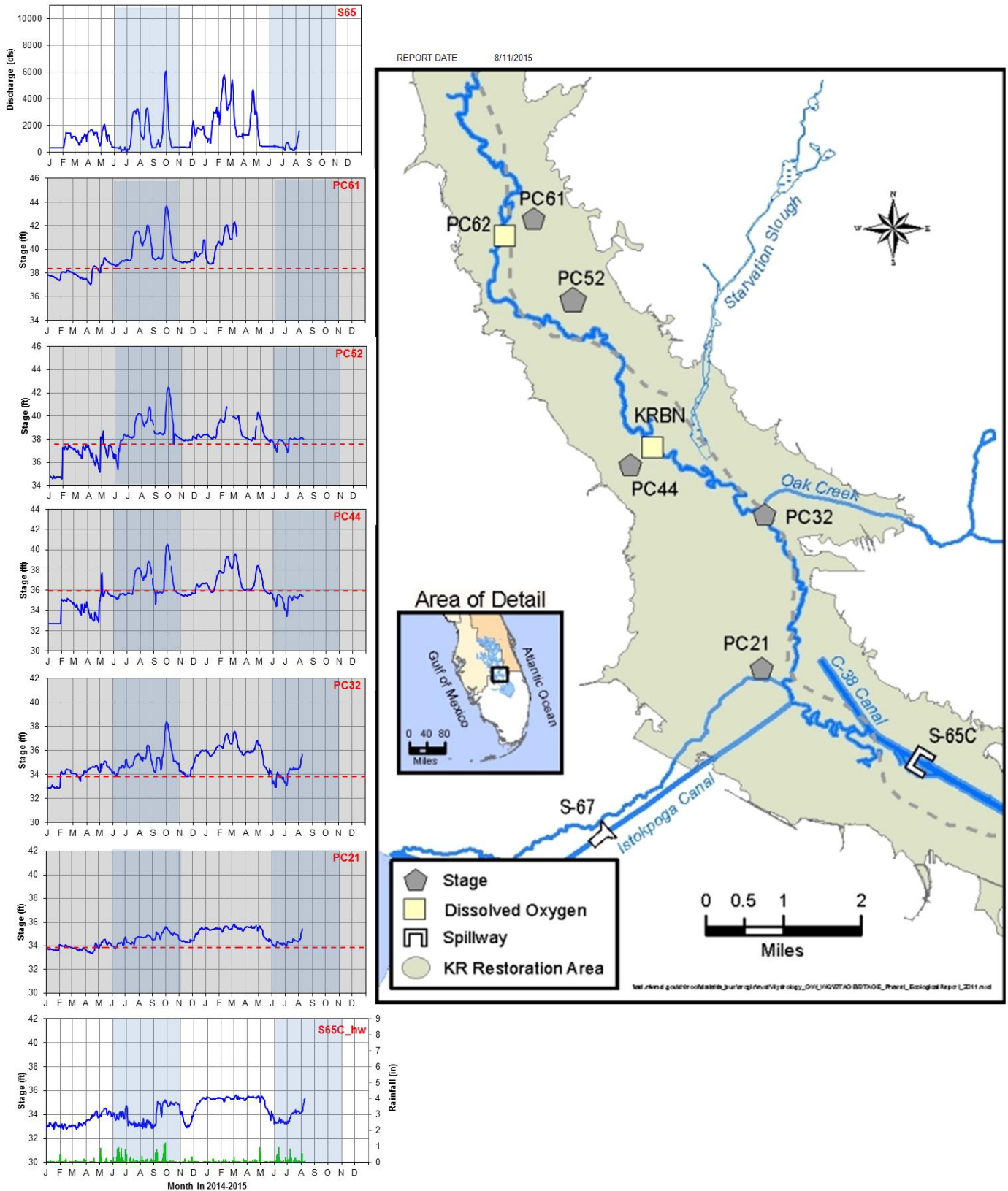


Figure 12. Discharge at S65, stages at five monitoring stations in the Phase I area of the Kissimmee River floodplain, and headwater stage at S65-C since January 1, 2013. The most recent data (~2 weeks) are provisional real-time data from SFWMD DualTrend; previous data are from SFWMD DB-HYDRO (validated). Dashed lines are ground elevations.

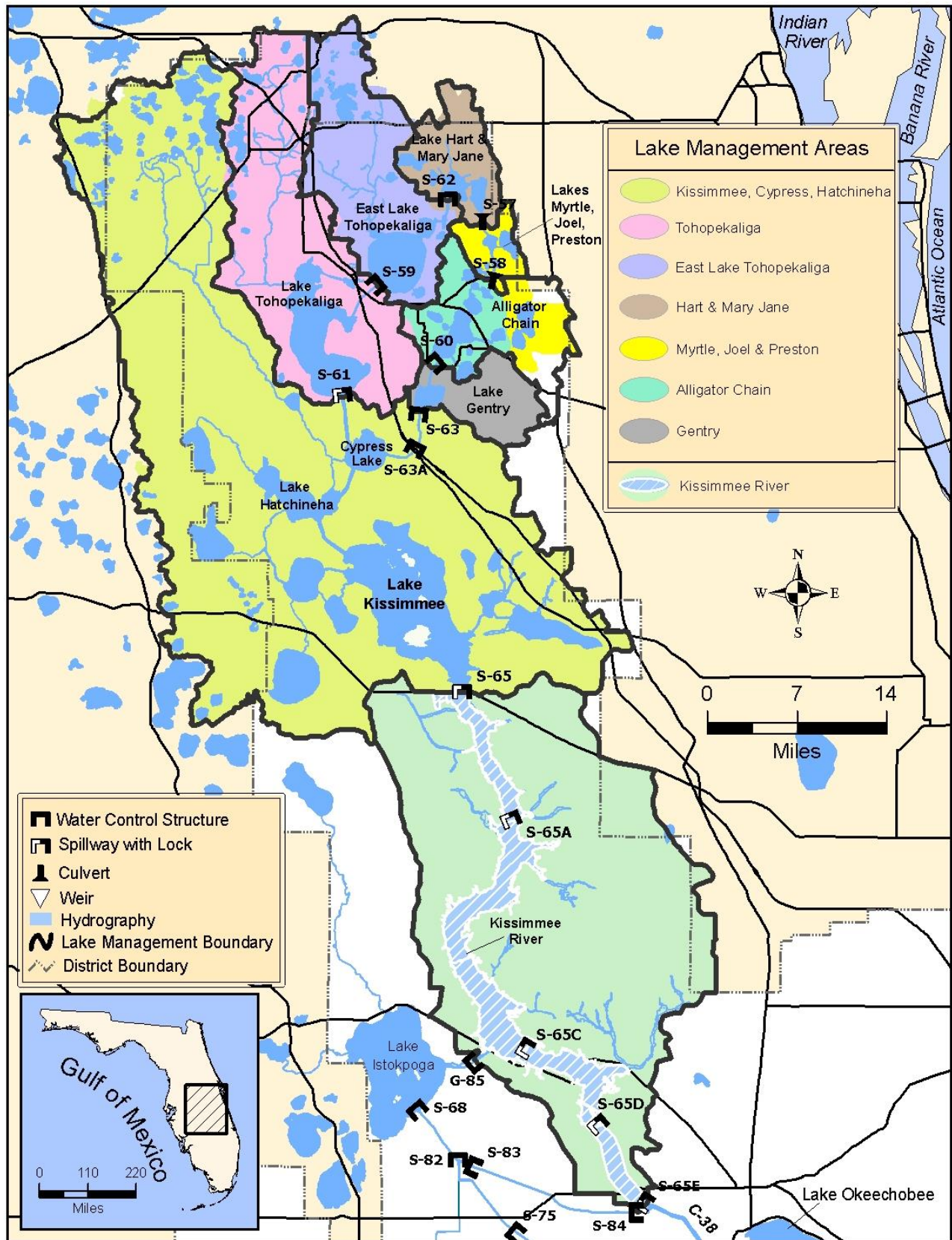


Figure 13. The Kissimmee Basin.

LAKE OKEECHOBEE

According to the USACE web site, Lake Okeechobee stage is at 12.27 feet NGVD for the period ending at midnight on August 10, 2015. Lake stage has remained essentially static over the past seven days. The Lake is now 0.18 feet higher than it was a month ago and 2.02 feet lower than it was a year ago (Figure 1). The Lake is in the Beneficial Use Sub-band and within 0.32 feet of the top of the water shortage management sub-band (Figure 2). According to RAINДАР, 0.27 inches of rain fell directly over the Lake during the past seven days. Similar or greater amounts fell to the north of the Lake. Rainfall amounts to the east, west and south of the Lake tended to be similar or lower (Figure 3).

Based on USACE reported values, current Lake inflow is approximately 1939 cfs consisting of flows as indicated below.

Structure	Flow cfs
S65E	1185
S154	0
S84 & 84X	204
S71	682
S72	0
C5	0.
S191	0
S133 PUMPS	0
S127 PUMPS	0
S129 PUMPS	0
S131 PUMPS	25
S135 PUMPS	0
Fisheating Creek	525
S2 Pumps	0
S3 Pumps	0
S4 Pumps	0

Lake outflows consist of 393 cfs exiting through S-354 and L8. There are no reported flows through S-77 or S-308. Change in elevation equivalents and average weekly flows for major structures are presented in Figure 4.

The most recent MODIS satellite images (August 5) (Figure 5) indicate low to moderate bloom conditions in most of the Lake's nearshore zone.

A fish kill was reported in The King's Bar area on August 6, 2015. The cause of the kill was unknown although it included some turtles, which suggests that it was not dissolved oxygen related.

Water Management Recommendations

The summer increase in Lake levels stalled this past week and the Lake remains below the optimal Lake stage for this time of year. Future recommendations for the short term will depend in large measure on wet season rainfall patterns and amounts. However, operations that increase inflows and restrict discharges are favored at this time; the operational goal being to maintain a steady increase in Lake stage, not to exceed 0.5 feet per month throughout the wet season.

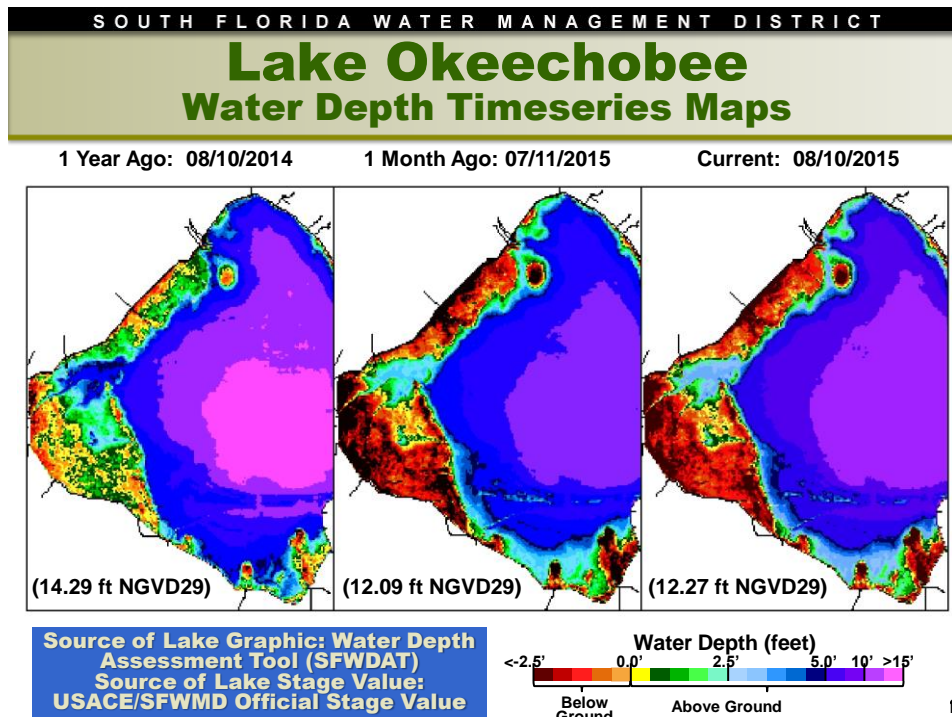


Figure 1

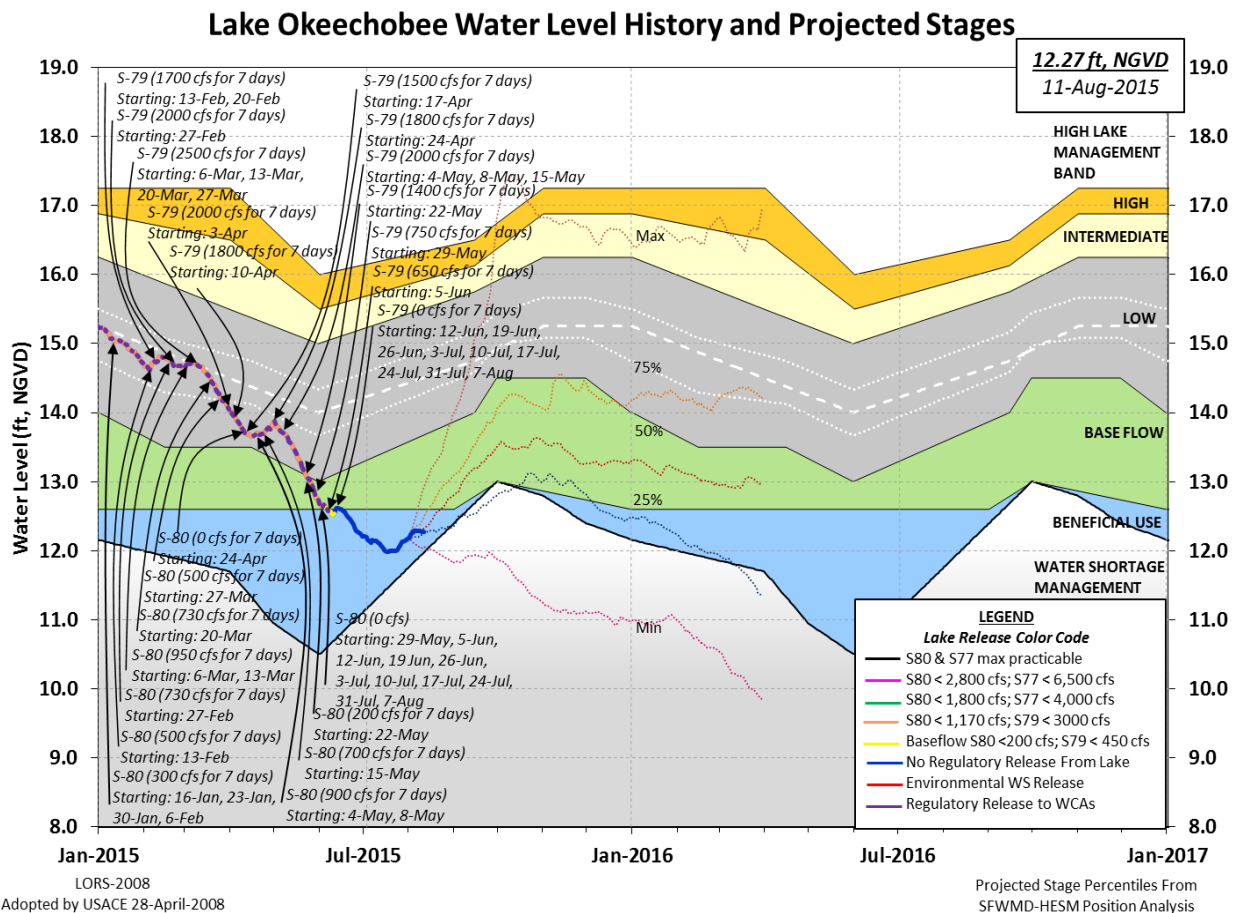


Figure 2

SFWMD PROVISIONAL RAINDAR 7-DAY BASIN RAINFALL ESTIMATES
FROM: 0230 EST, 08/04/2015 THROUGH: 0230 EST, 08/11/2015

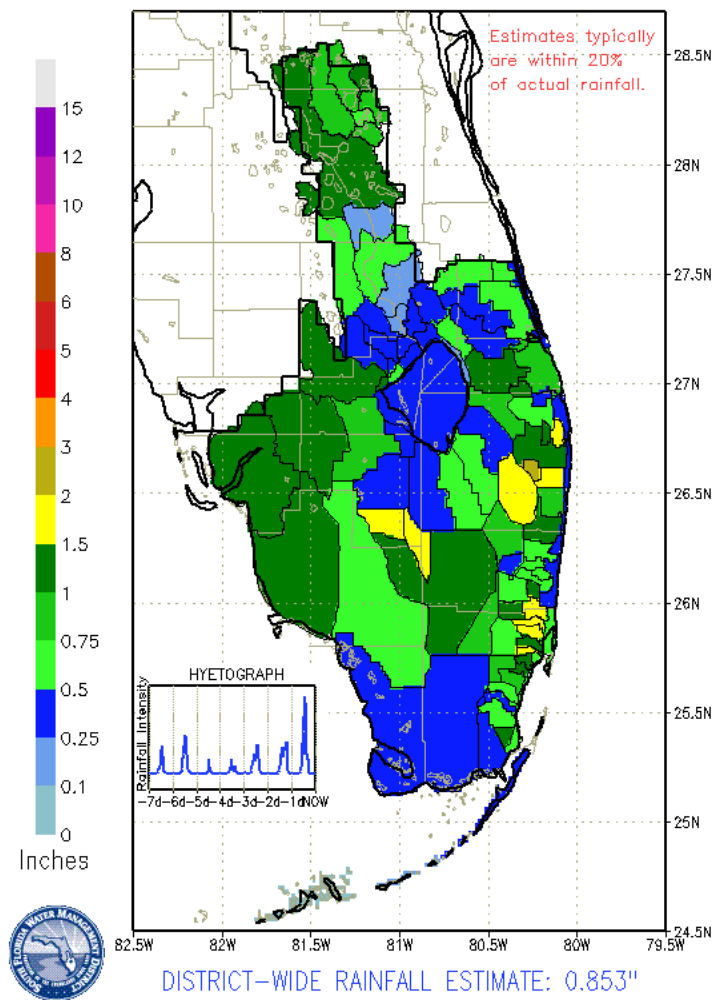


Figure 3

INFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S65E	942	0.036
S71 & 72	0	0.001
S84 & 84X	942	0.017
Fisheating Creek	341	0.013
Rainfall	N.A.	0.135
OUTFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S77	97	0.004
S308	0	0.000
S351	0	0.000
S352	200	0.008
S354	61	0.002
L8	-70	-0.003
ET	N.A.	N.A.

Figure 4

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee

Algal Blooms

Unvalidated Data

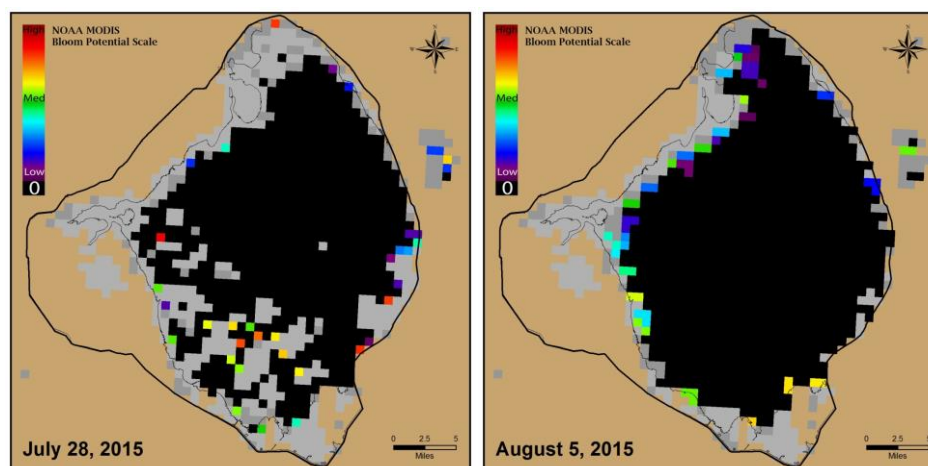


Figure 5

Lake Istokpoga

Lake Istokpoga stage is 38.38 feet NGVD today and is currently 0.06 feet above its regulation schedule (38.32 feet NGVD) which has now begun its annual rise to high pool stage (Figure 6). Average flows into the Lake from Arbuckle and Josephine creeks were 278 and 180 cfs respectively, a net increase from last week. Average discharge from S-68 and S-68X this past week was 480 cfs, a decrease from the preceding week. According to RAINDAR, 0.70 inches of rain fell in the Lake Istokpoga watershed during the past seven days.

August 5 satellite imagery for Lake Istokpoga (Figure 7) indicated moderate bloom conditions over much of the Lake north of the major islands.

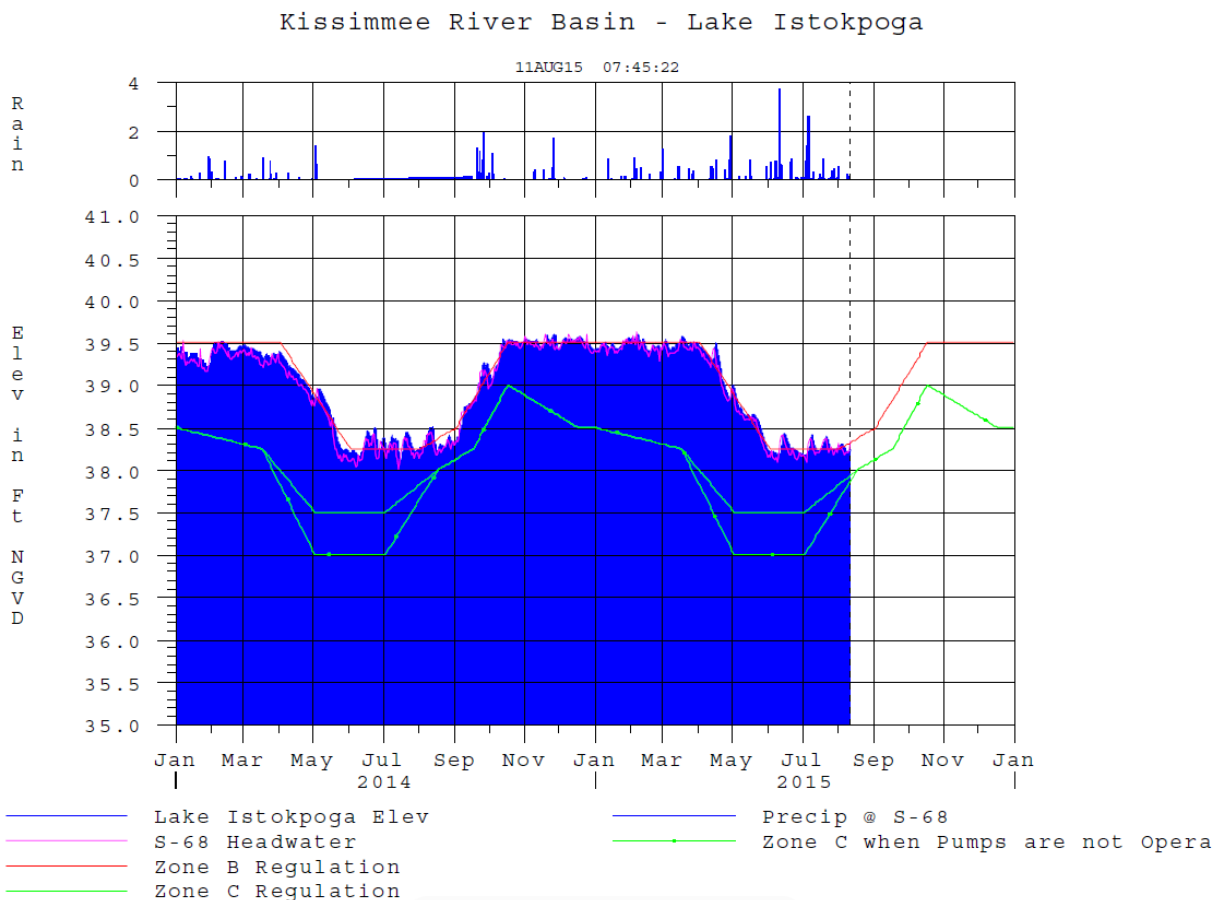


Figure 6

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Istokpoga

Algal Blooms

Unvalidated Data

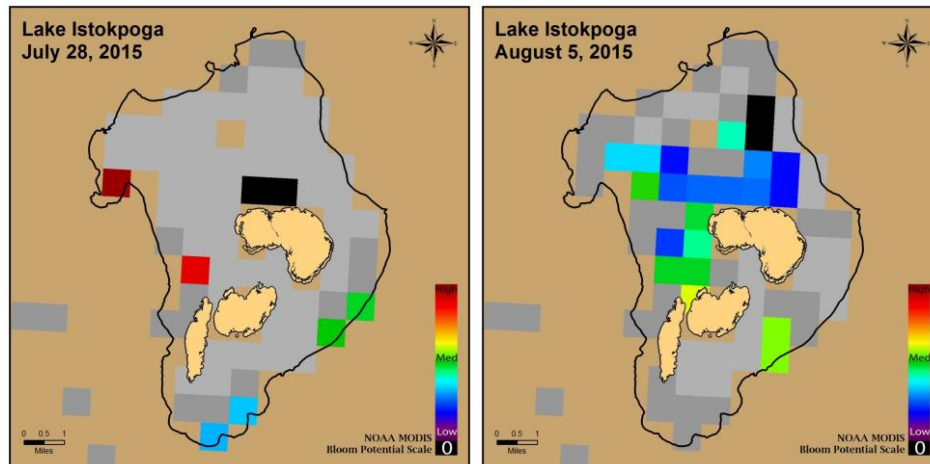


Figure 7

ESTUARIES

St. Lucie Estuary

Over the past week, provisional flows averaged 0 cfs at S-80, 0 cfs at S-308, 127 cfs at S-49 on C-24, 22 cfs at S-97 on C-23, and 219 cfs from Ten Mile Creek at the Gordy Road Structure. Average inflow from tidal basin tributaries is estimated to be 203 cfs (Figures 1 and 2). Total inflow averaged 571 cfs last week and 645 cfs over last month.

Over the past week, salinity slightly decreased throughout the estuary (Table 1, Figures 3 and 4). The seven-day moving average salinity of the water column at the US1 Bridge is 16.9. Salinity conditions in the middle estuary are in the good range for the adult eastern oyster.

Table 1. Seven-day average salinity at three monitoring stations in the St. Lucie Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for adult eastern oysters (*Crassostrea virginica*) in the middle estuary.

Sampling Site	Surface	Bottom	Envelope
HR1 (N. Fork)	~ 10.0 (11.8)	NR (NR)	NA ¹
US1 Bridge	16.0 (16.3)	17.8 (17.9)	10.0-26.0
A1A Bridge	24.4 (25.2)	28.1 (28.5)	NA

¹Envelope not applicable

Caloosahatchee Estuary

During the past week, provisional flows averaged approximately 86 cfs at S-77, 107 cfs at S-78, and 982 cfs at S-79. Average inflow from tidal basin tributaries is estimated to be 1641 cfs (Figures 5 and 6). Total inflow averaged 2623 cfs last week and 3194 cfs over last month.

Salinity remained about the same as last week throughout the estuary (Table 2, Figures 7 and 8). The seven-day average salinity values are within the good range for oysters at Shell Point and Sanibel, but

within the fair range at Cape Coral (Figure 9). The 30-day moving average surface salinity is 0.4 at Val I-75 and 1.6 at Ft. Myers. Salinity conditions at Val I-75 are in the good range for tape grass.

Table 2. Seven-day average salinity at six monitoring stations in the Caloosahatchee Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for tape grass (*Vallisneria americana*) at Val I-75 and for adult eastern oysters (*Crassostrea virginica*) elsewhere.

Sampling Site	Surface	Bottom	Envelope
S-79 (Franklin Lock)	0.2 (0.2)	0.2 (0.2)	NA ¹
Val I75	0.2 (0.3*)	0.2* (0.3*)	0.0-5.0 ²
Ft. Myers Yacht Basin	0.3 (0.3)	0.3 (0.3)	NA
Cape Coral	4.4 (4.7)	5.9 (5.3)	10.0-30.0
Shell Point	17.8 (17.4)	19.4 (18.6)	10.0-30.0
Sanibel	25.8 (25.7)	27.2 (27.5)	10.0-30.0

¹Envelope not applicable, ²Envelope is based on a 30-day average.

*Val I75 is temporarily offline due to bridge construction.

Salinity values are estimated using models developed for the site.

Salinity forecasts during the next two weeks were constructed for the following two scenarios: a) no release (Figure 10) and b) 450 cfs pulse release. Due to high levels of flow from the watershed, by August 24, 2015, the predicted daily salinity and the 30-day moving average at the Val I75 location would be 0.3 for both cases.

Monitoring data collected by the River, Estuary and Coastal Observing Network of Sanibel-Captiva Conservation Foundation using continuous sensors are summarized in Table 3 as concentration ranges of Chlorophyll *a* and dissolved oxygen at Beautiful Island, Ft. Myers, and Shell Point in the Caloosahatchee Estuary.

Table 3. Weekly ranges of Chlorophyll *a* (a measure of algal biomass) and dissolved oxygen concentrations at three monitoring stations maintained by the Sanibel-Captiva Conservation Foundation.

	RECON Monitoring Stations		
	Beautiful Island	Ft. Myers	Shell Point
Chlorophyll <i>a</i> (µg/l)	NA	NA	1.8 – 6.9
Dissolved Oxygen (mg/l)	NA	NA	3.4 – 7.3

The Florida Fish and Wildlife Research Institute reported on August 6, 2015, that *Karenia brevis*, the Florida red tide organism, was not detected in samples collected this week from in, along, or offshore of, Pinellas, Manatee, Sarasota, Charlotte, Lee, Collier, or Monroe counties.

Water Management Recommendations

Lake Okeechobee's water level is within the Beneficial Use Sub-band; the tributary hydrological conditions are Normal; and the seasonal and multi-seasonal forecasts are Very Wet and Wet, respectively. The current and forecasted 30-day average salinities at the Val-I75 site are below the 5 psu threshold within the next two weeks. The Lake Okeechobee Regulation Schedule (LORS) and Lake Okeechobee Adaptive Protocols (LOAP) prescribe no Lake releases at either S-80 or S-77.

Currently, the USACE is not releasing water from Lake Okeechobee to the Caloosahatchee and St. Lucie estuaries. Local basin runoff is more than sufficient to maintain salinity within the preferred ranges of oysters and submerged aquatic vegetation in both estuaries. There are no ecological benefits associated with additional releases from Lake Okeechobee.

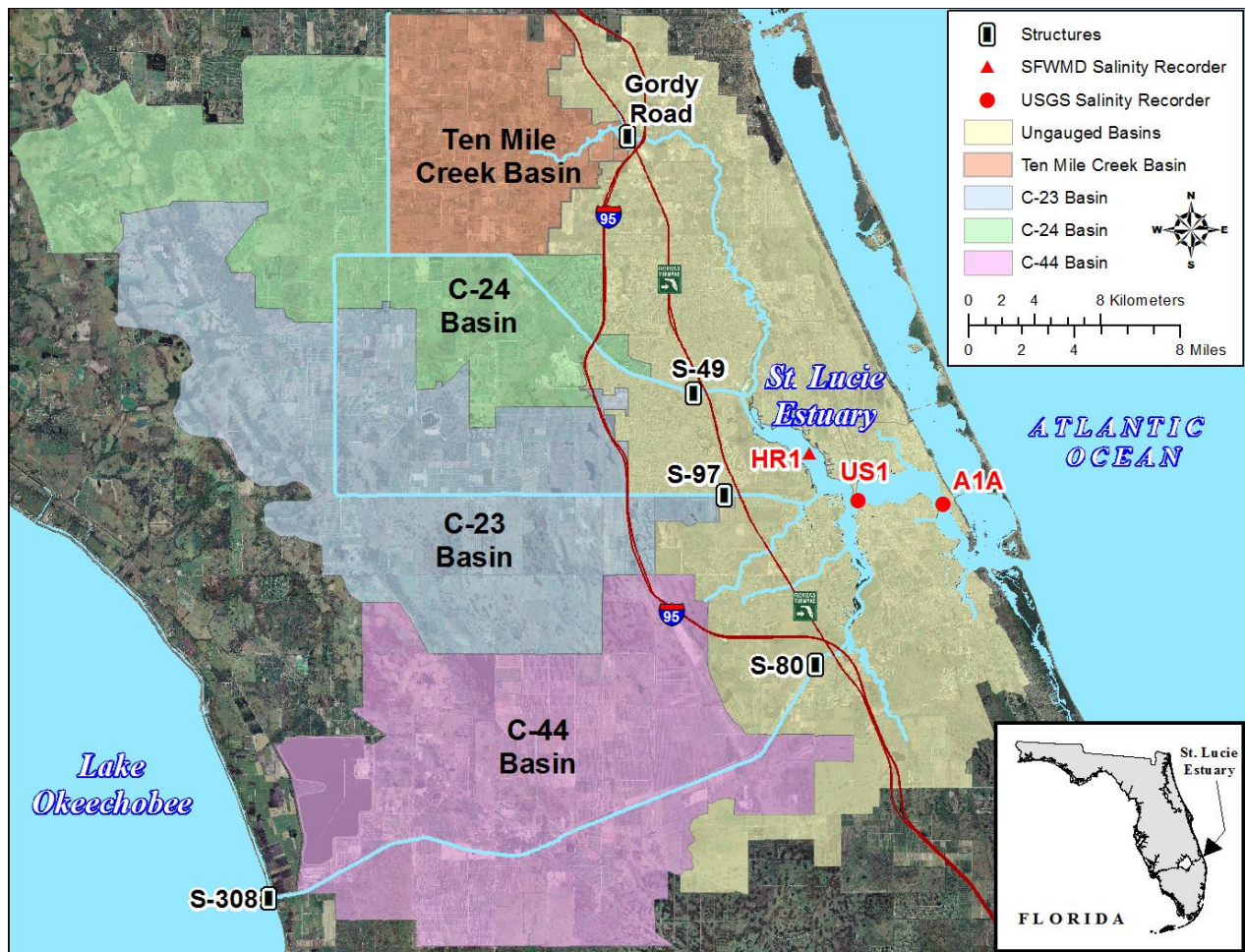


Figure 1. Basins, water control structures, and salinity monitoring for the St. Lucie Estuary.

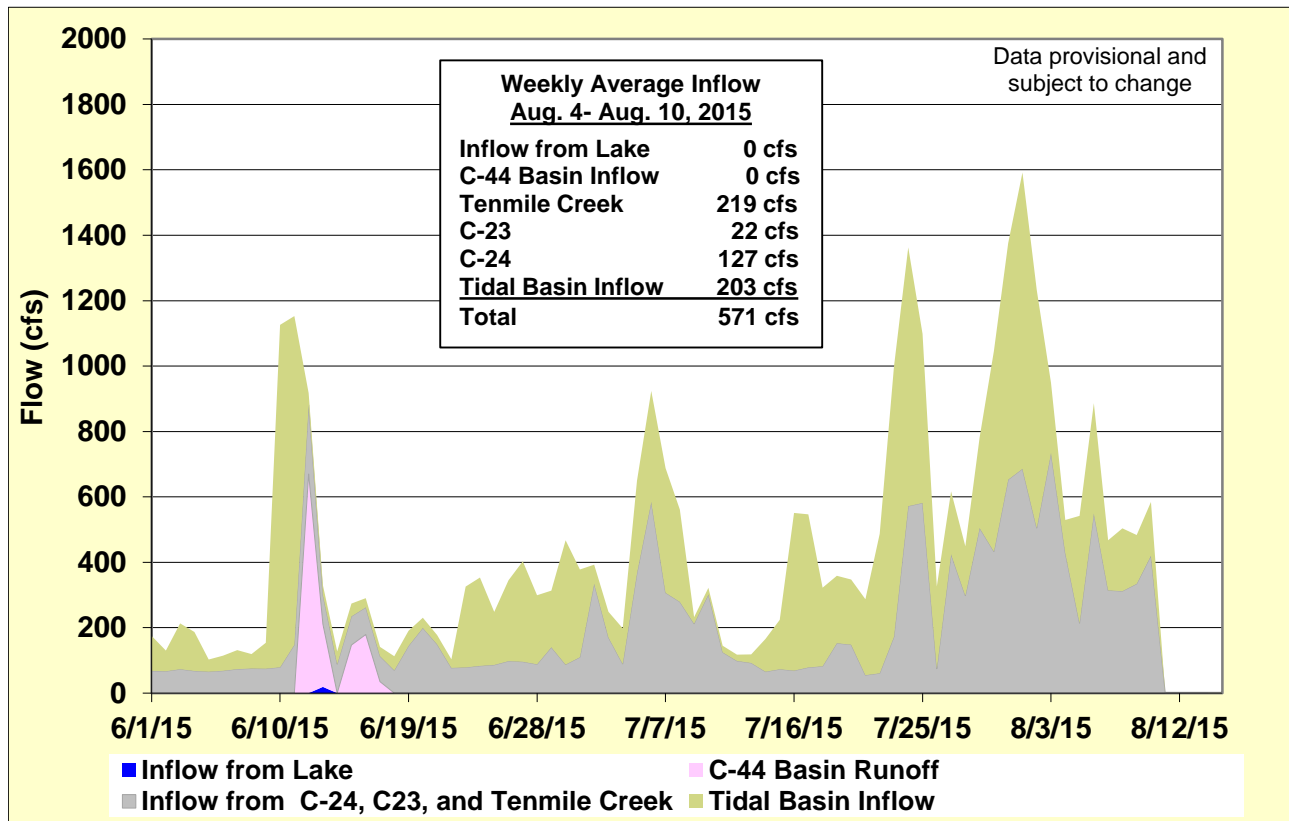


Figure 2. Estimated surface freshwater inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and tidal basins into the St. Lucie Estuary.

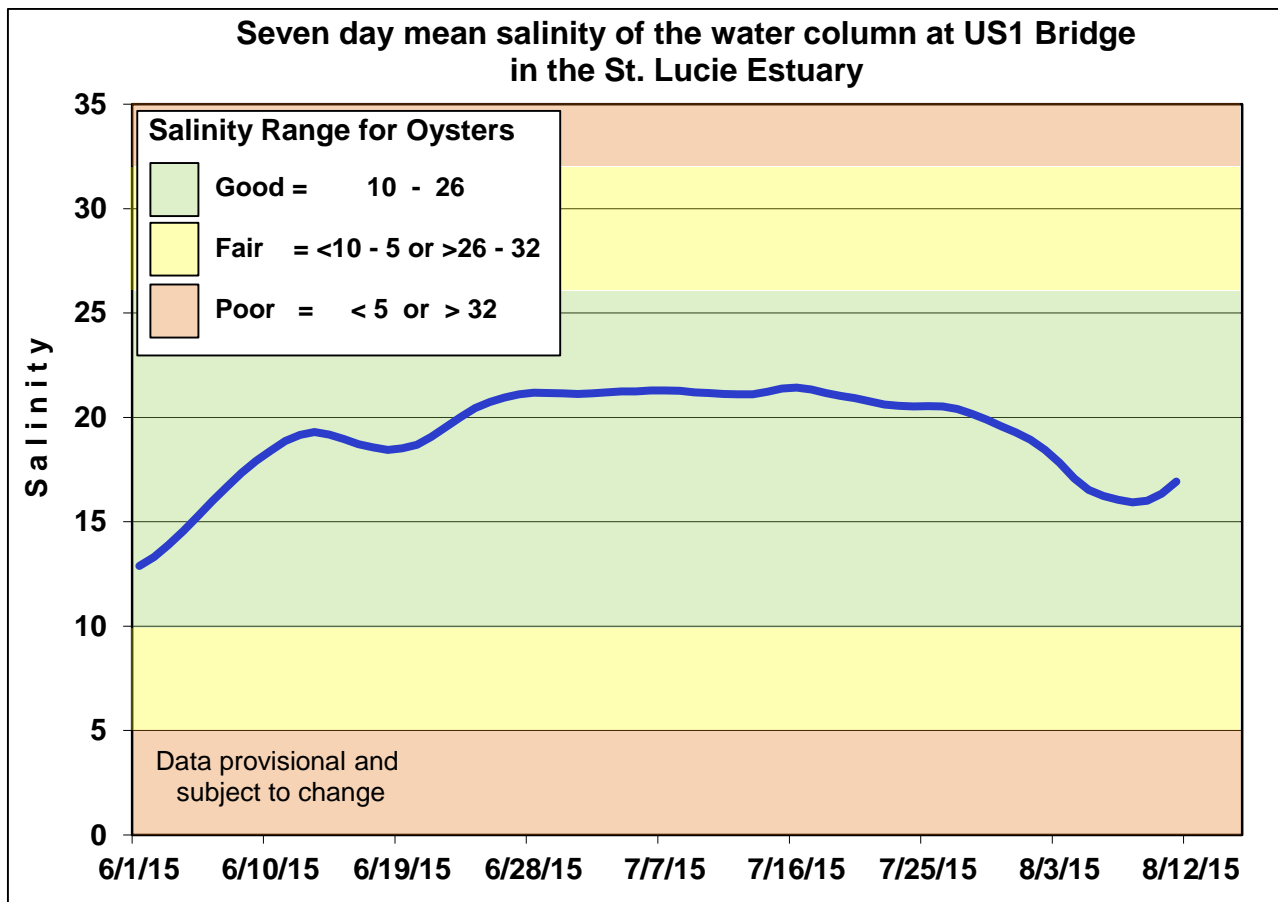


Figure 3. Seven-day mean salinity of the water column at the U.S. Highway 1 Bridge.

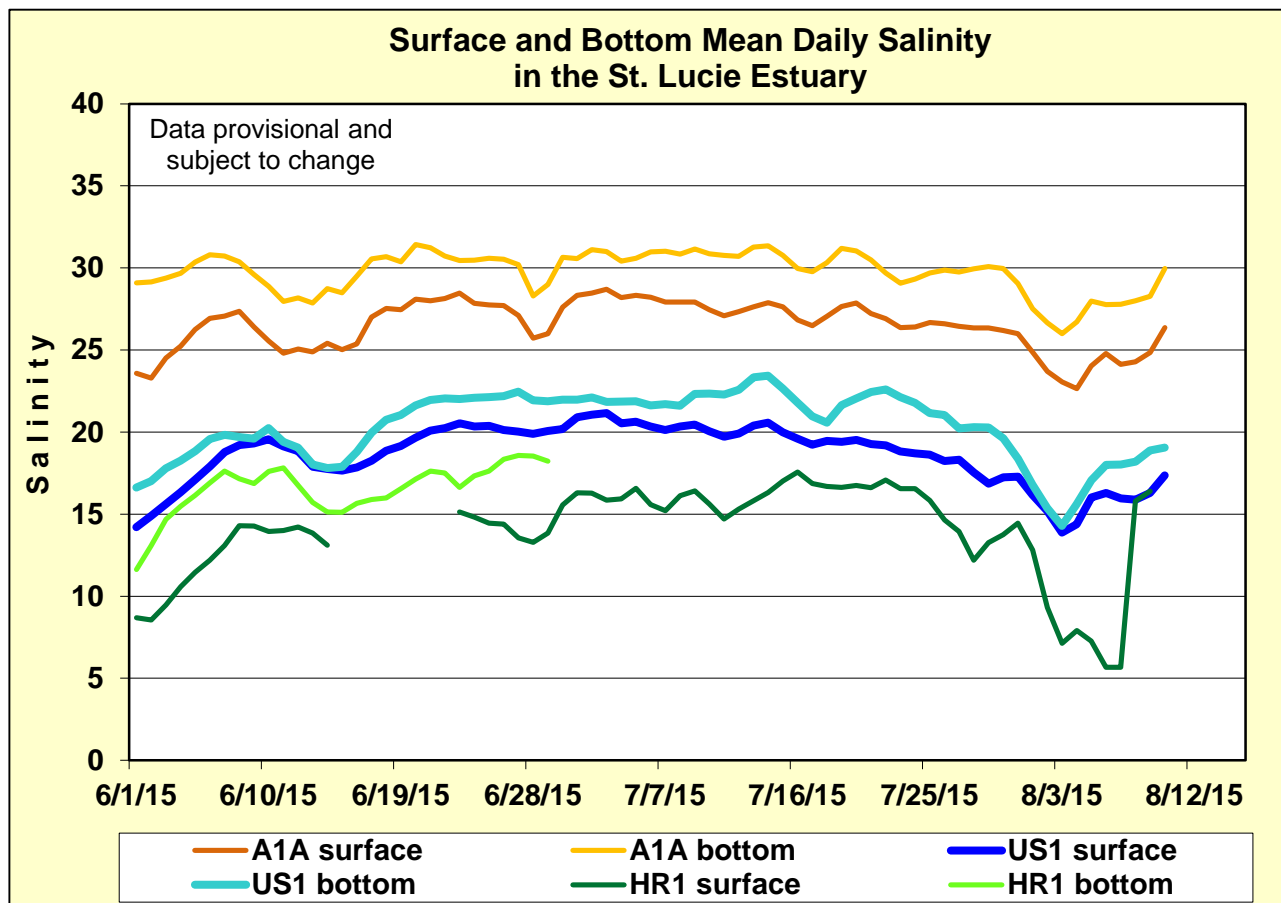


Figure 4. Daily mean salinity at the A1A, US1 and HR1 stations.

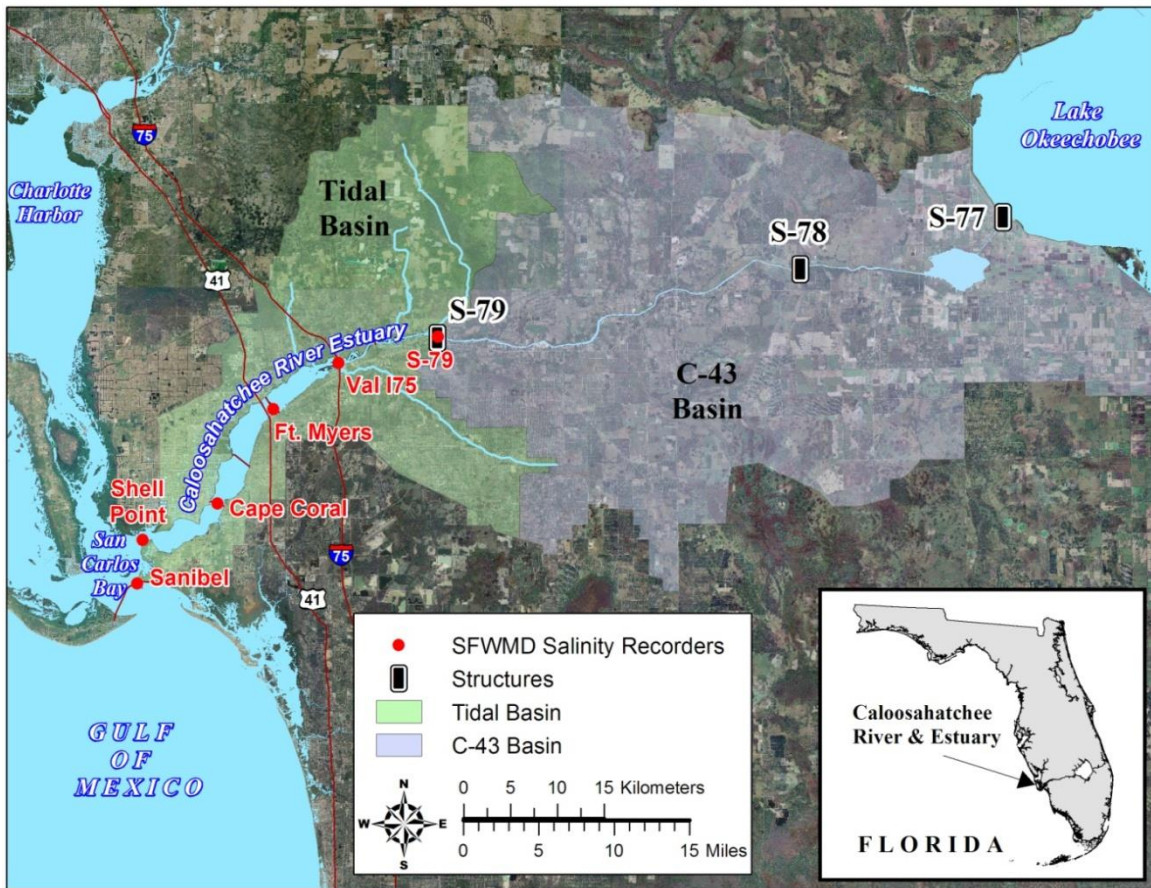


Figure 5. Basins, water control structures, and salinity monitoring for the Caloosahatchee Estuary.

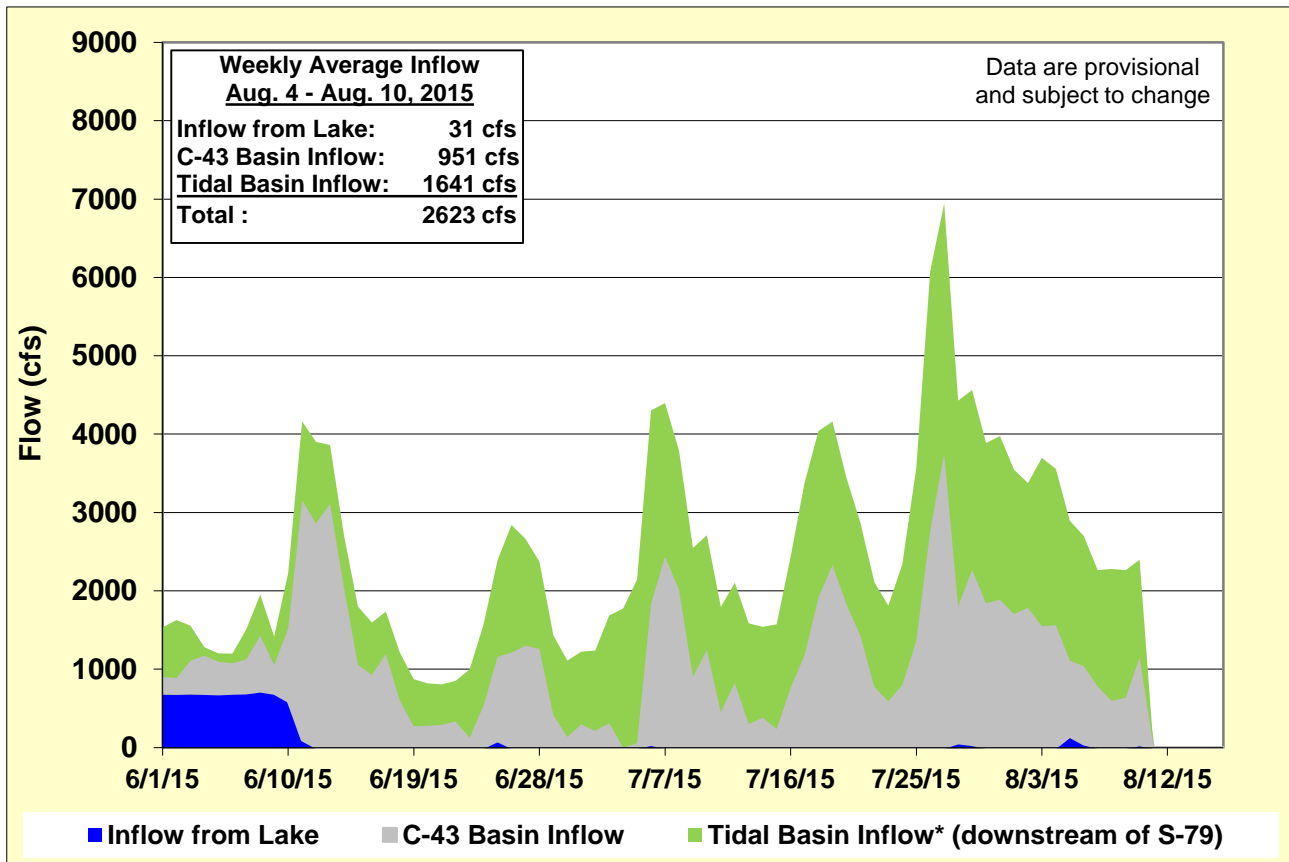


Figure 6. Surface freshwater inflows from Lake Okeechobee, runoff from the C-43 basin, and tributaries in the tidal basin into the Caloosahatchee River Estuary.

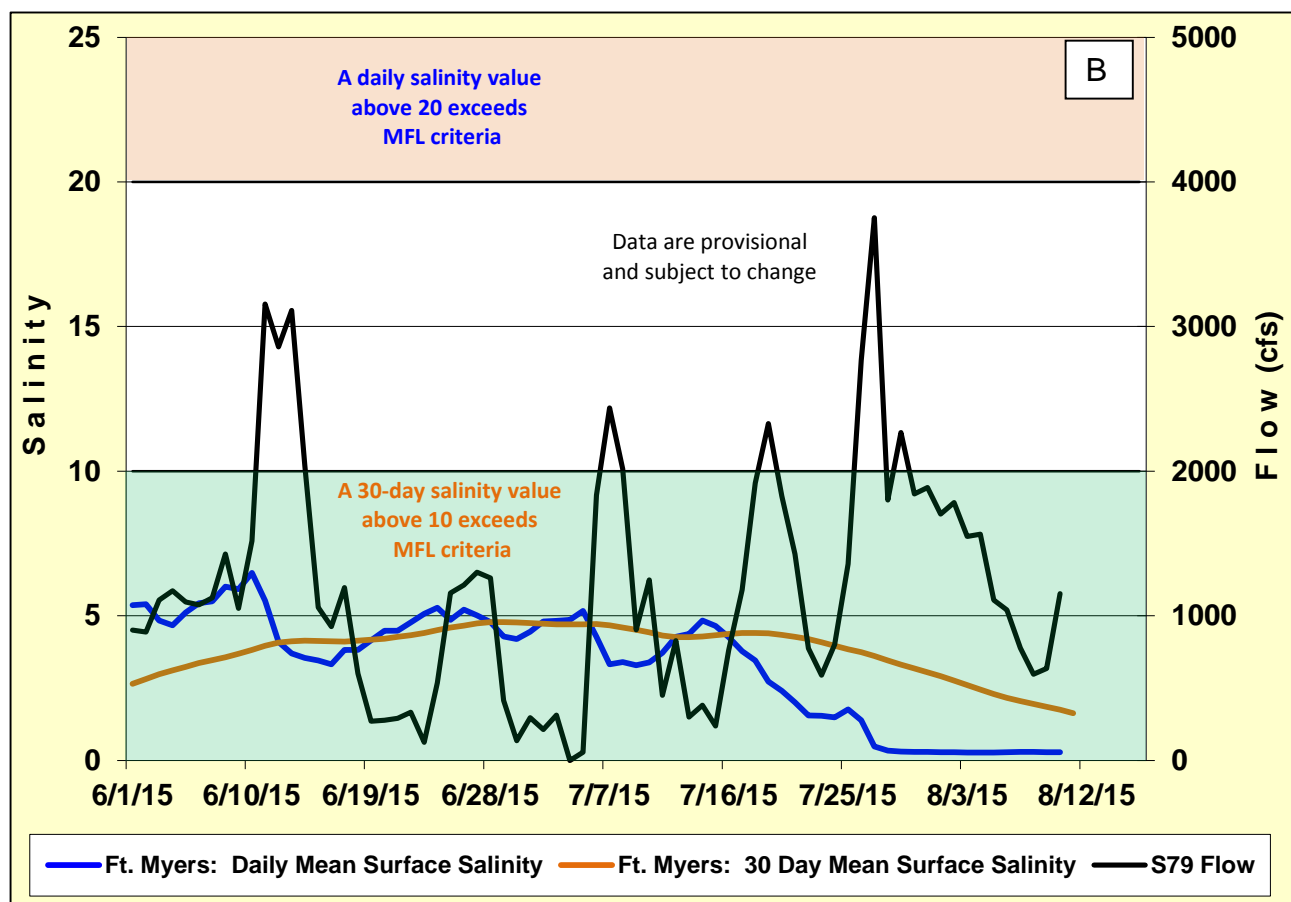
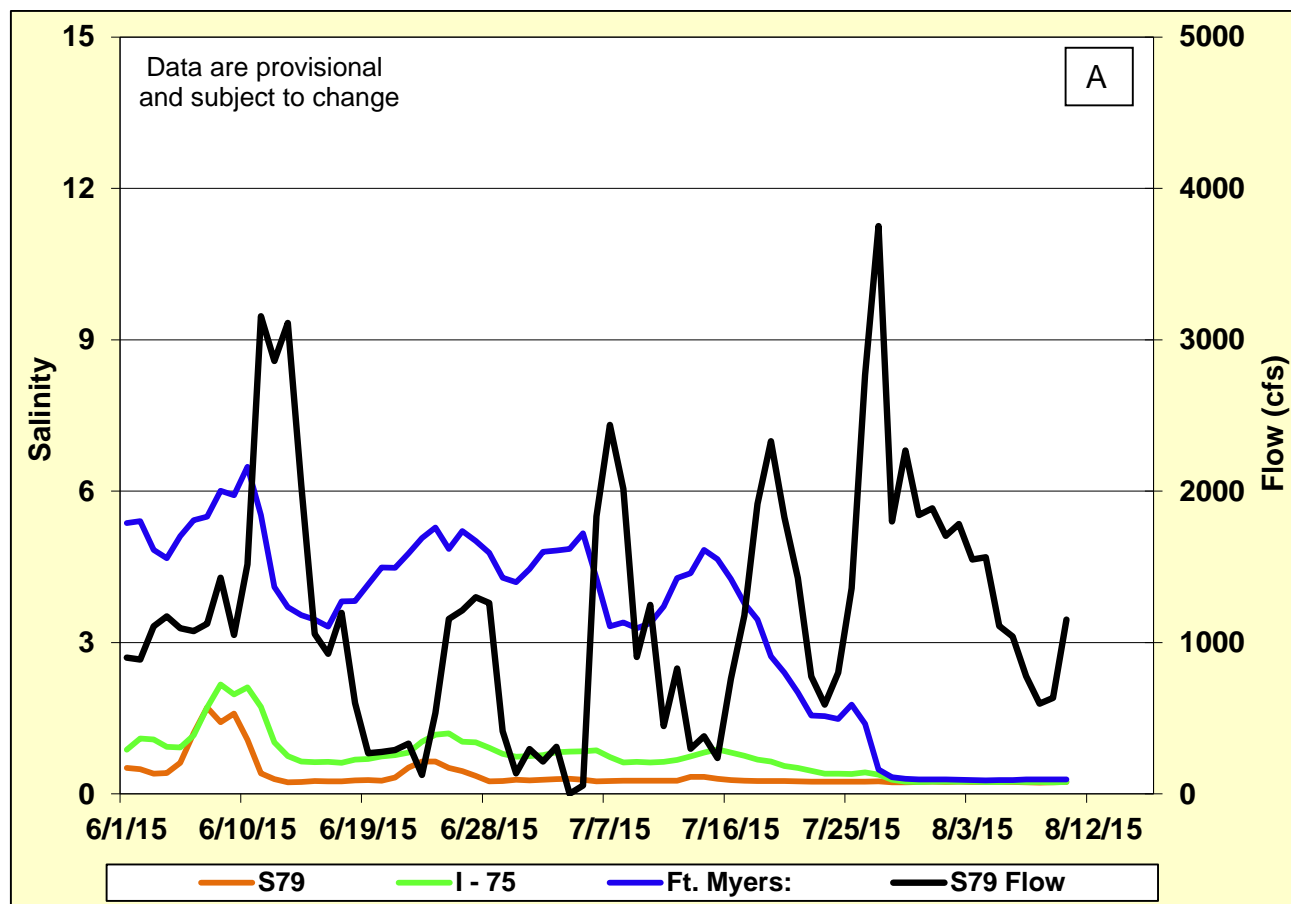


Figure 7. Daily mean flows at S-79 and salinity at upper estuary monitoring stations (A) and 30-day moving average salinity at Ft. Myers (B).

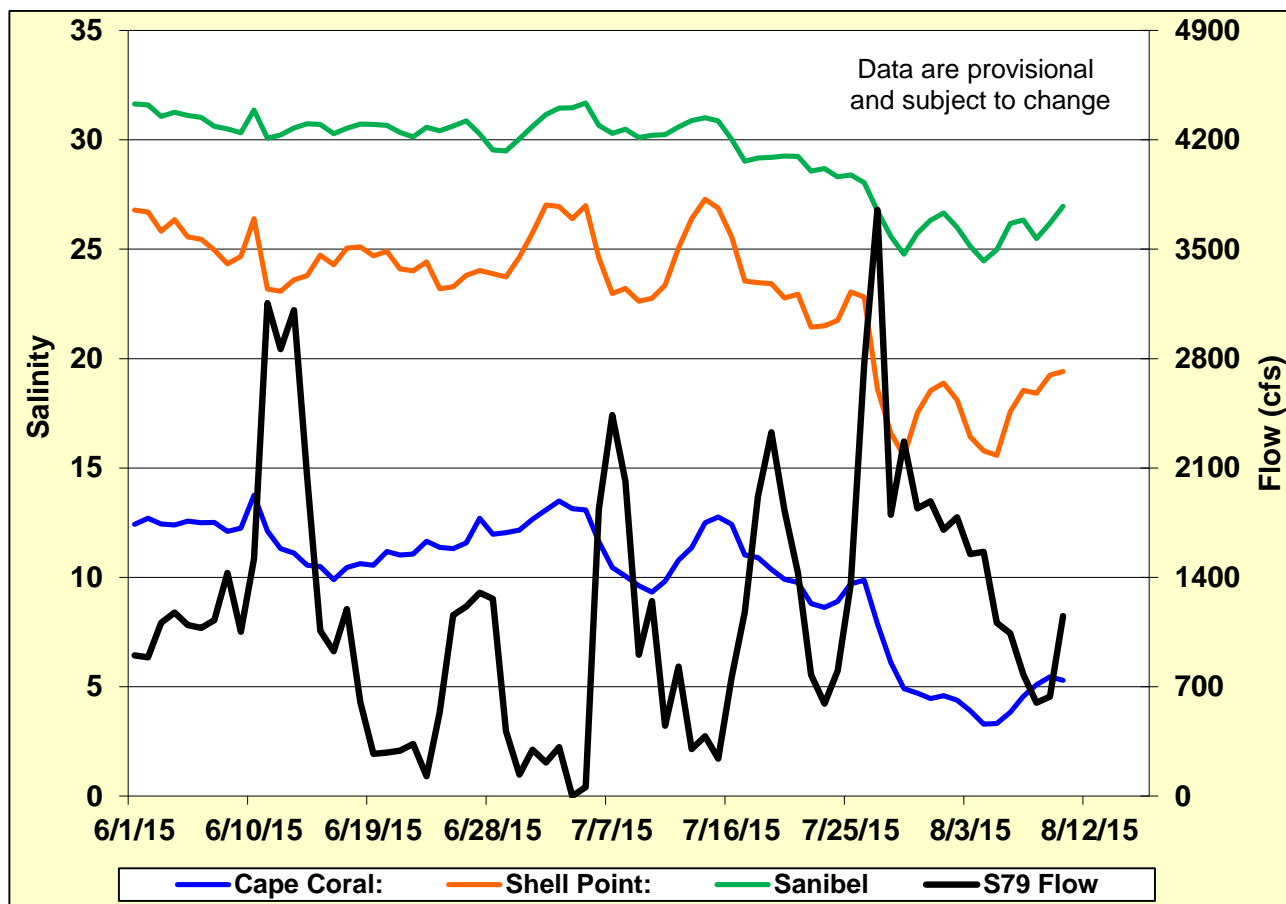


Figure 8. Daily mean flows at S-79 and salinity at lower estuary stations.

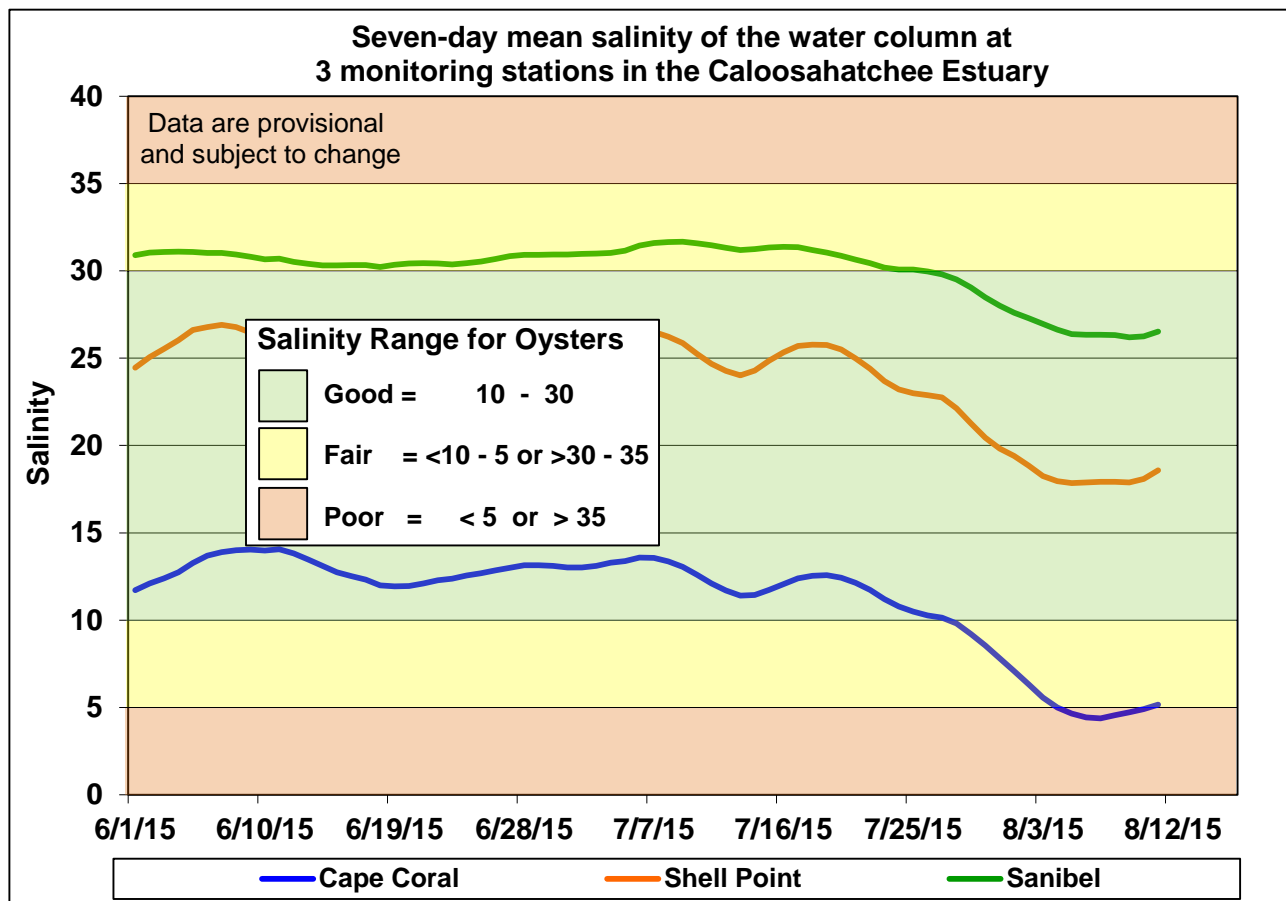


Figure 9. Seven-day mean salinity at Cape Coral Bridge, Shell Point and Sanibel Bridge monitoring stations.

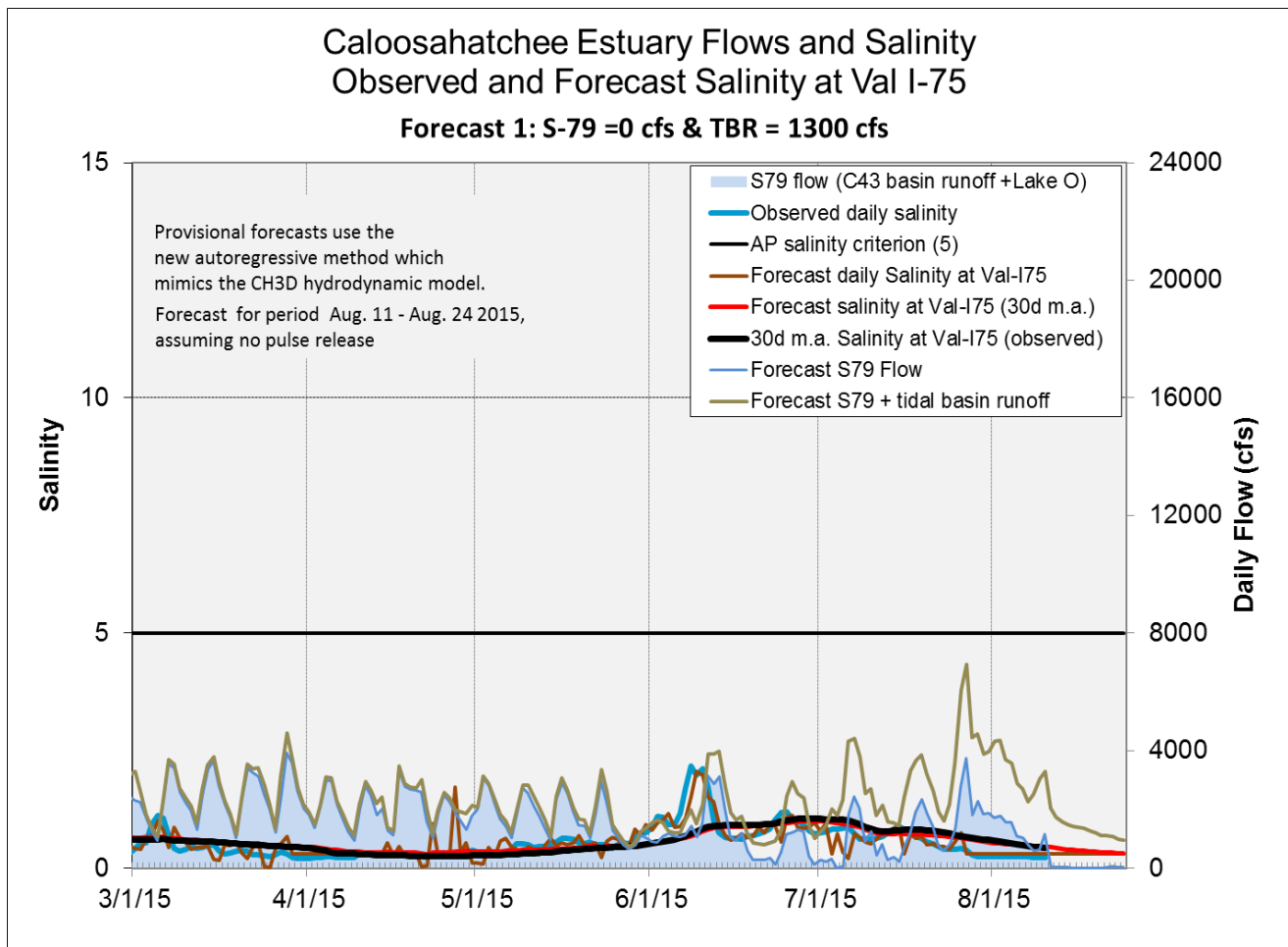
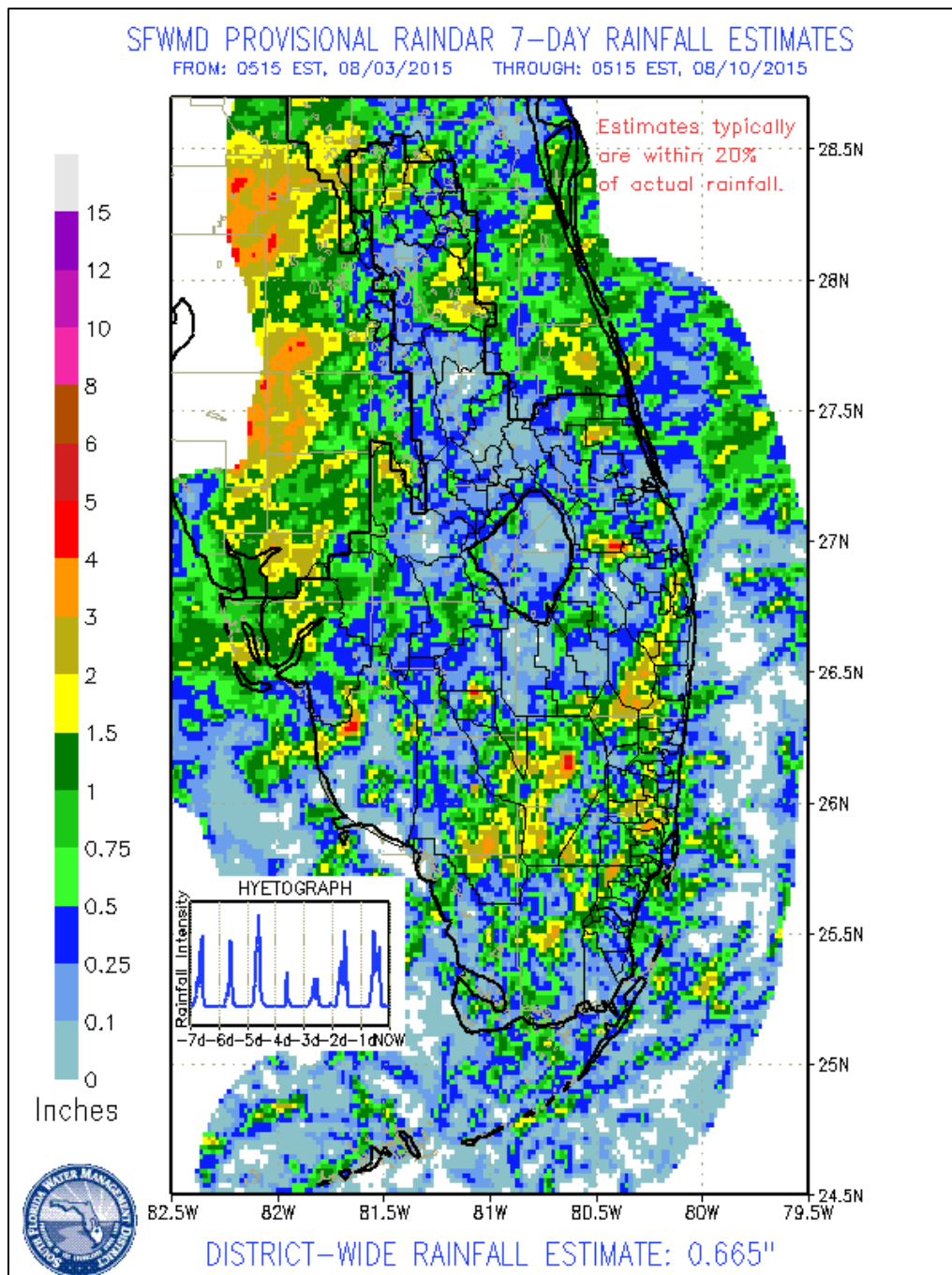


Figure 10. Two-Week Salinity Forecast for Caloosahatchee Val I-75 location assuming 0 cfs flow from S-79.

GREATER EVERGLADES

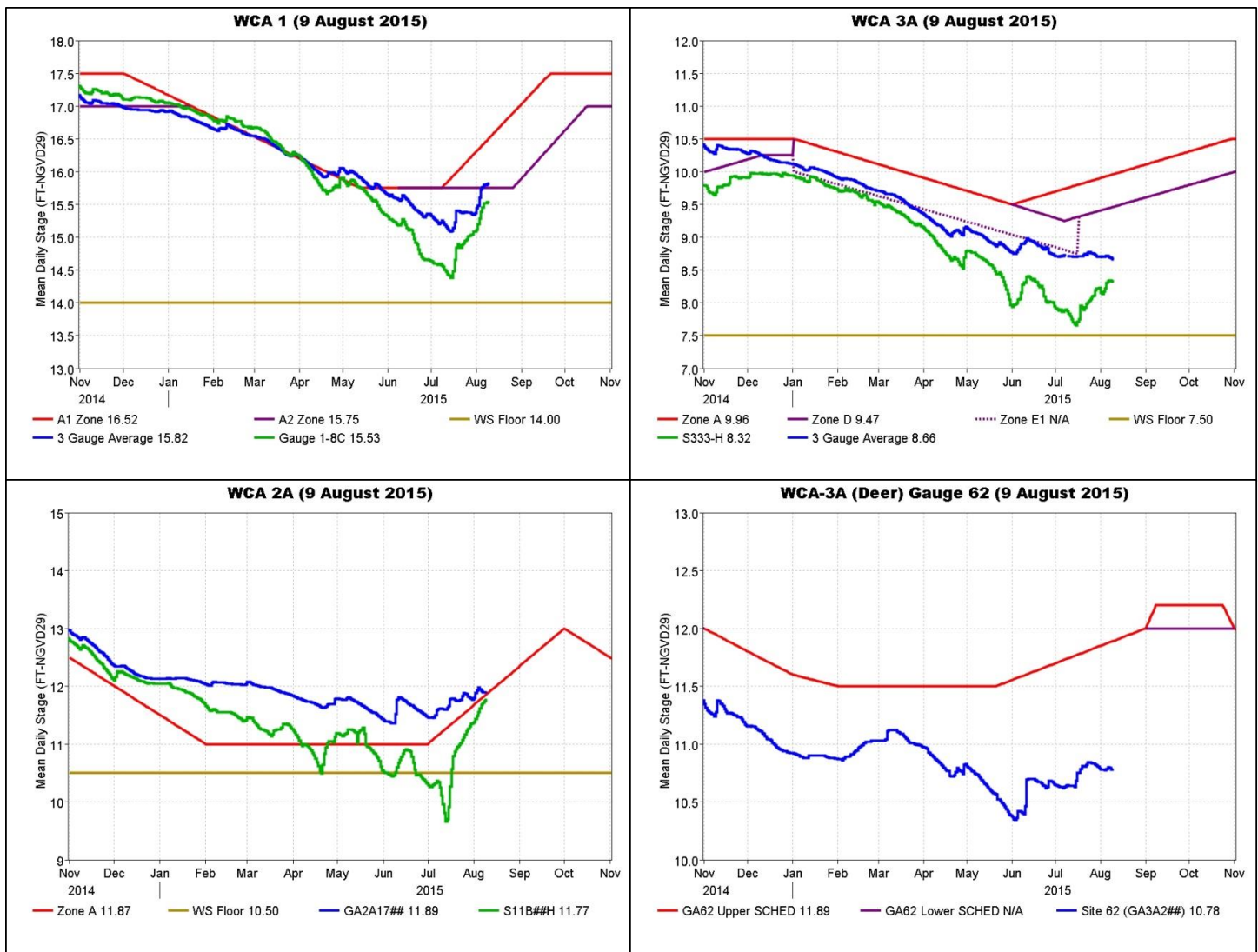
The Everglades rainfall was slightly higher than that of the rest of the District this week, but amounts were still low to moderate. Basin averages ranged from 0.43 inches in WCA-2B to a high of 1.37 inches in WCA-1. The local basin maximum rainfall was 5.43 inches in WCA-3A. Basin-wide stage changes were mixed, from a decline of -0.61 feet in WCA-2A to an increase of 0.19 feet in WCA-1. Pan evaporation was similar to last week's at 1.47 inches, close to the 1.42-inch pre-project average.

Everglades Region	Rainfall (Inches)	Stage Change (feet)
WCA-1	1.37	0.19
WCA-2A	1.31	0.00
WCA-2B	0.43	-0.61
WCA-3A	1.10	-0.04
WCA-3B	0.93	0.12
ENP	0.57	-0.03



Regulation Schedules

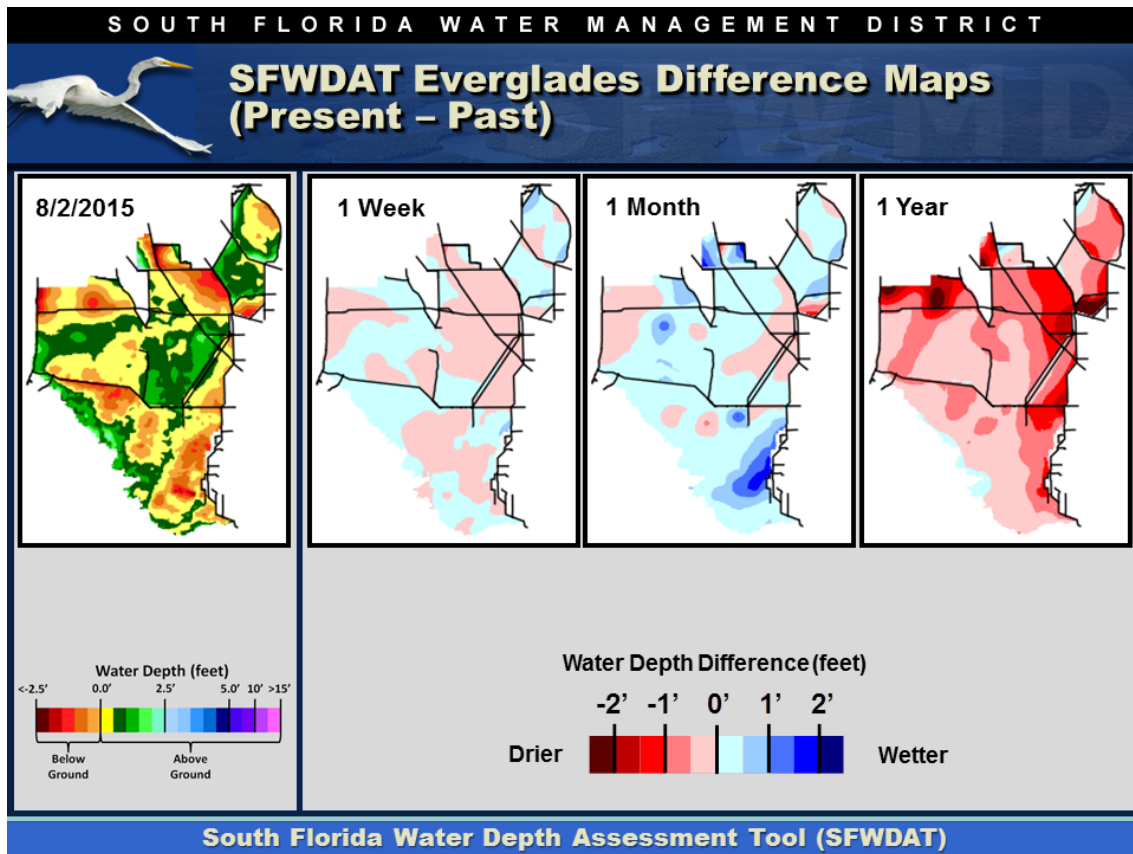
Except in WCA-1, stage changes at gauges used for the regulation schedules decreased last week and most stages are low for this time of year. In WCA-1, the three gauge average in the wetlands increased slightly to 0.07 feet above the bottom of Zone A2. The WCA-2A stage has fallen to only 0.02 feet above regulation. In WCA-3A, stages are very low; the three-gauge average is 0.81 feet below Zone D and 1.30 feet below regulation. The water level at the northwestern WCA-3A gauge stage (gauge 62) is 1.11 feet below the upper regulation schedule.



Water Depths and Changes

Water levels are higher than a month ago and higher than two months ago, but are still much lower than usual at this time of the wet season. Stages at the monitored gauges range from -2.21 feet or deeper (WCA-2B) to 1.20 feet (southern WCA-3A). The stage at gauge 63 in northeastern WCA-3A has decreased to -0.54 feet below ground and over 2 feet below ground north of there.

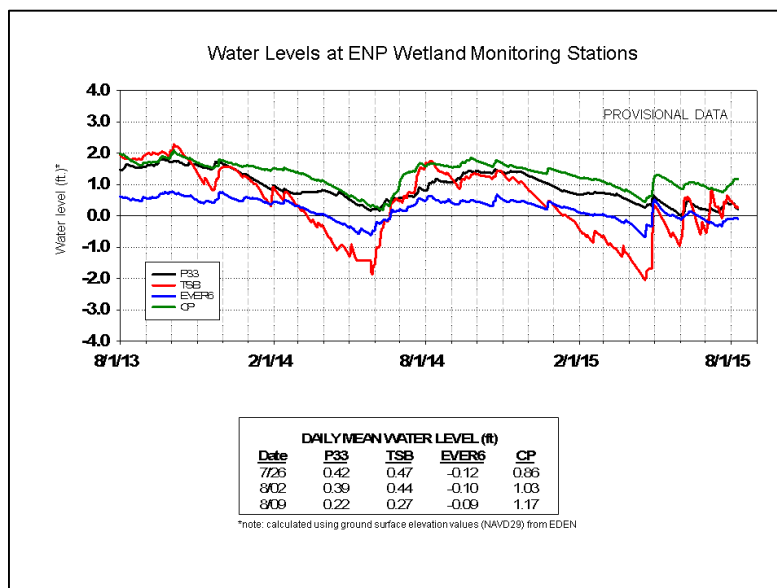
Stages are mixed again relative to last week and generally higher than a month ago. Stages are drier (<1.0 feet) to much drier (>2.5 feet) than a year ago. Stage gauge changes ranged from a decrease of -0.61 feet in WCA-2B to an increase of 0.42 feet in WCA-1 (gauge 1-8T).



Cape Sable Seaside Sparrow: Nesting appears to be complete in the three monitored subpopulations.

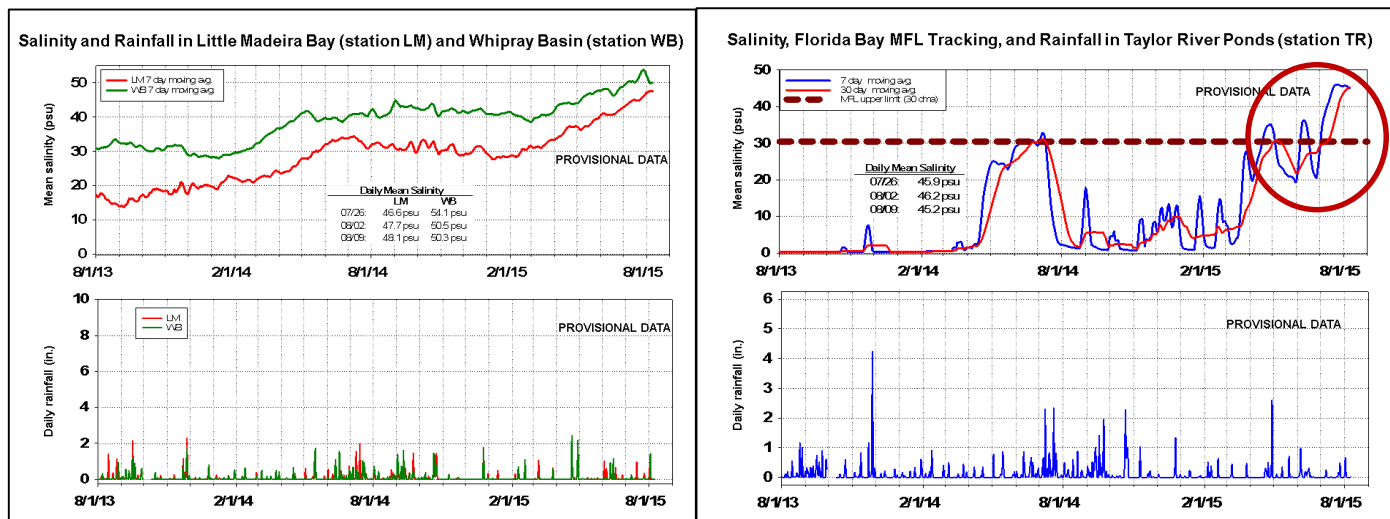
Everglades National Park (ENP) and Florida Bay

Water level changes in Taylor Slough were mixed this past week with stages decreasing in the north and increasing in the south. Compared to the long-term averages, which are rising at this time of year, water levels are four to six inches below average in southern Taylor Slough and the ENP panhandle. The site at the Taylor Slough Bridge in northern Taylor Slough is almost a foot below average for this time of year

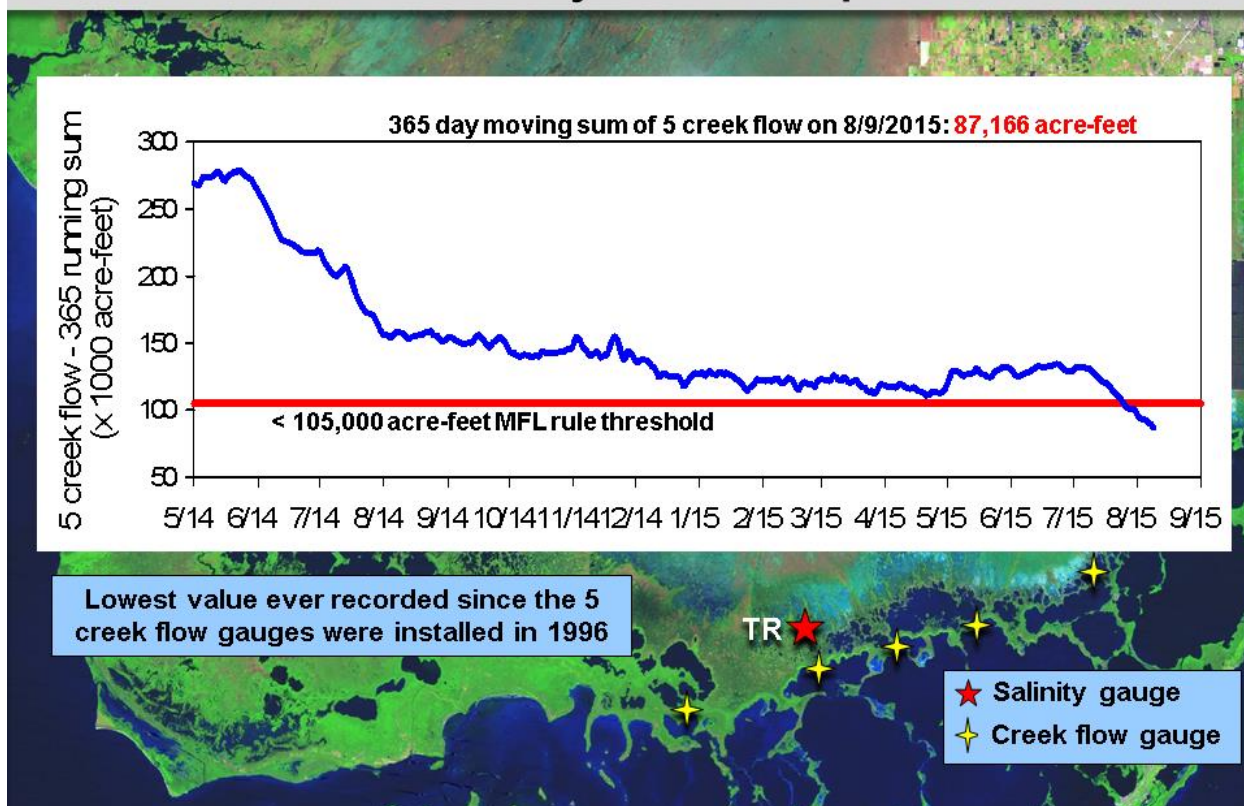


Salinities in Florida Bay remain elevated and are 12 to 30 psu above average for this time of year. The lowest salinity is 45 psu. Central Florida Bay and the central nearshore embayments remain above 50 psu. Salinity at the Taylor Slough Minimum Flows and Levels site decreased to 45.2 psu, which brings the 30-day moving average to 45.3 psu. This is the period of time when salinities are expected to be decreasing.

The 365-day running sum of the cumulative flow from five creeks feeding Florida Bay decreased again and as of August 9 is 87,166 acre-feet, below the 105,000 acre-feet criteria for the Florida Bay MFL. This inflow is the lowest since 1996 when the five gauges were installed. Creek flow data are provisional from the USGS.



Florida Bay Flow Update



Water Management Recommendations

- Water levels are far below what are needed in the Everglades and Florida Bay. Increased water is needed throughout the system, particularly in ENP to Florida Bay through Taylor Slough.
- We recommend targeting ascension rates of up to 0.25 feet per week (or 0.5 feet over two weeks to allow for large rain events) for the wet season to meet the end of wet season stage targets for environmental needs (prey species support, peat, and plant community needs).
- We continue to recommend releases into northeastern WCA-3A while conditions are very dry. Once water levels rise above ground, additional releases should no longer be needed. Gauge 63 is still 0.47 feet below ground and stage north of the gauge are over two feet below ground.
- Active nesting by the Cape Sable Seaside Sparrows appears to be finished for the year. Therefore, the request to delay opening the S-12A and S-12B structures no longer applies.

Site-specific recommendations appear in the summary table below. The red text represents new or modified information or recommendations.

Summary of Everglades Recommendations, August 11, 2015 (SFWMD) (red is new text)				
Area	Current Condition	Cause(s)	Recommendation	Reasons
WCA-1	Stages changed -0.04' to 0.42'.	Rainfall, ET, management	Target rainfall driven wetland stages at the top of Zone A2. Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species and to take advantage of rain events.
WCA-2A	Stage--no change	Rainfall, ET, management	Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days. High season target stage of 13 ft NGVD at 2-17 on Oct 1	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species and to take advantage of rain events.
WCA-2B	Stage decreased 0.61'. Gauge EDEN-13 has been dry for 7 weeks	Rainfall, ET, management	Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	High stages preclude wading bird use, but provide good habitat for ducks.
WCA-3A NE	Stage decreased -0.07'; gauge 63 is -0.54' below ground	Rainfall, ET, management	Strongly recommend releases into far NE 3A to protect peat and wetlands until water levels are above ground again. Average water stage of gauges 62 and 63 should remain under 11.60 feet. Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species in 3A, and also to allow taking advantage of rain events.
WCA-3A NW	Stage--no change	Rainfall, ET, management		
Central WCA-3A S	Stage decreased -0.11'	Rainfall, ET, management	Move water into WCA-3A as much as possible. Season's dry conditions jeopardize peat and prey populations for the upcoming dry season conditions. Wet season target is 10.67 3AVG by Oct 30. Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species in 3A, and take advantage of rain events. Avoid or minimize discharge through S-12A and S-12B through at least August 15 and as long as possible to benefit Cape Sable seaside sparrow nesting and habitat conditions.
Southern WCA-3A S	Stage increased 0.04'	Rainfall, ET, management		
WCA-3B	Stage changes ranged from -0.01' to +0.35'	Rainfall, ET, management	Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Provide foraging habitat for wading birds.
ENP-SRS	Stage decreased -0.03' and water remains above ground	ET, rainfall, topography, management	Discharges to the Park with the ERTF rainfall plan. Water deliveries to Shark Slough should be made through S-333, then through S-12D and S-12C.	Promote native habitat and maintain wetland plant communities.
ENP-CSSS habitats	Nesting appears to be complete. Conditions are still fairly dry.	Rainfall, ET, management	Request for extended closures for S-12A and S-12B is ended.	Provide habitat and appropriate nesting conditions for CSSS.
Taylor Slough	Dry. 4-12 inches below average.	Rain, ET, inflows	Move water southward as possible	Provide freshwater buffer for ecosystems and freshen saline conditions downstream
FB- Salinity	Hypersaline. Still 12-30 psu above average	Rain, ET, inflows, wind.	Move water southward as possible	Southward flows are still needed to reverse/slow salinity increases